

AUGUST 1915

*Cut*

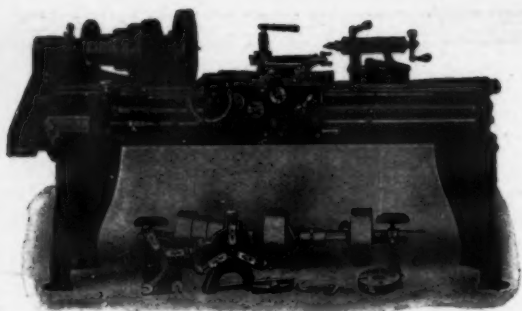
Issued Every Month

for Free Distribution to Users  
of Machine Tools

**HITCHCOCK'S  
MACHINE  
TOOL LIST**

A Reference Book for Buyers  
of Iron Working Machinery

Published by  
**A. H. HITCHCOCK**  
1220-1235 Caxton Building  
Chicago



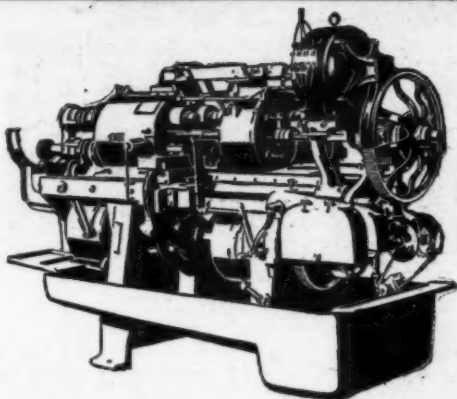
## The **CHAMPION** 14-Inch Lathe

Is an attractive proposition to the shop wanting machinery of the greatest capacity for heavy, accurate work.

We make them with both Quick Change and Standard Gear Boxes. The Swing over the Bed is  $15\frac{1}{8}$  inch and  $9\frac{1}{2}$  inch over the Carriage, with  $1\frac{0}{8}$  inch hole through Spindle, Automatic Stops to the feed which are of the friction type, and every gear safely guarded.

Write us for your Lathe requirements, and we will send Catalogue of 10, 12, 14, 16 and 18 inch machines.

**Champion Tool Works Company**  
2426 Spring Grove Ave., Cincinnati, Ohio, U. S. A.



## **The Cost on your Screws and Parts**

is too high unless you are making them by the shortest method:-that's the "Acme Way."

The Acme divides up the long cuts to shorten the time on the ordinary jobs. It also does cross drilling, and milling from the end and side. This avoids the use of extra machines for finishing.

Since the longest operation is the time for any piece on the Acme Automatic, production is greatly increased and the cost on each piece is low.

*Ask for Booklet*

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**THE NATIONAL-ACME MANUFACTURING CO.**

**AUTOMATIC SCREW MACHINES AND THEIR PRODUCTS**

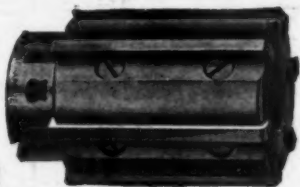
**CLEVELAND, OHIO**

**New York, Boston, Chicago, Detroit, Atlanta, Montreal**

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**I**F you are aiming at *economical efficiency* in your shop, here is a series of Reamers that will interest you.

Their working qualities are fully equal to those of the best *solid* Reamers, but the blades of "StanaR" Adjustable Reamers can be readjusted quickly and reground to a new size.

And when a set of blades wears out, a new set can be bought for a mere fraction of the cost of an entire new solid Reamer of equal size.

Think of the *economy* of adjustable and replaceable blades where the maintenance of fixed standards of accuracy is required!

"StanaR" Reamers will give you perfect work, because their blades, while readily adjustable, are absolutely rigid in service and cannot work loose.

# THE STANDARD TOOL CO.

Cleveland, Ohio

-

Sixth City

# "STANAR"

## Adjustable Reamers

### Carbon and High-Speed Blades

**A**N important feature of "StanaR" Reamers and one that is exclusively theirs, is that Carbon and High Speed Steel blades can be interchanged in the same bodies.

The liberal width of the blades permits regrinding many times before they become worn out, and they extend beyond the ends of the bodies a sufficient distance to permit grinding with end clearance for chucking and machine reaming. The blades are unevenly spaced, which prevents chattering and insures smooth holes.

Don't you think such Reamers as these would be profitable in *your* shop?

We make them in hand, shell, and chucking styles, and the arbors for the shell Reamers and the shanks for the chucking Reamers can be furnished either taper or straight.

*Write us about these Reamers  
and ask for Catalog No. 19.*



# THE STANDARD TOOL CO.

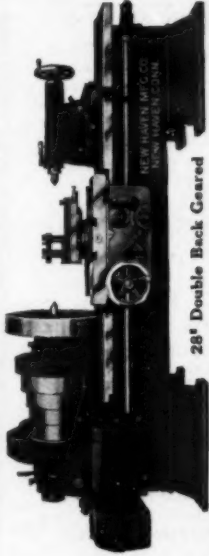
Cleveland, Ohio

Sixth City

# A Lathe You Can Bank On

The New Haven combines Power, Capacity and Efficiency

Made  
18-inch  
to  
65-inch  
Swing



With  
Belt  
or  
Motor  
Drive

28" Double Back Geared

THIS STANDARD LATHE is improved up-to-the-minute in a scientific, dependable manner. Every new feature was carefully tried out before adoption. We have given our best attention to every detail, and the combined result is a lathe that has no superior today. For 60 years our judgment and skill in the production of lathes has been ripening, and each one must have made good in results before it is backed by the New Haven Guaranty.

*The price is not of the prohibitive sort; let us send it with a complete description.*

**New Haven Manufacturing Co., - New Haven, Conn.**

## Double Head Facing Lathe

**Doubles the Output—Halves the Cost**



This 32 inch, double quick machine, faces all kinds of flanged pipe, pipe fittings, columns, girders and similar work. Operating on two faces at the same time, it does twice the work, and saves time, labor and expense. The stationary fixtures effect a further saving in the time it takes to adjust the work, over that required for chucking in an ordinary lathe. Special fixtures for holding work of any character. Belt or motor drive.

*Send today for circular and prices*

**FAY & SCOTT, - Dexter, Maine**  
Engine, Turret, Extension Gap and Patternmakers' Lathes



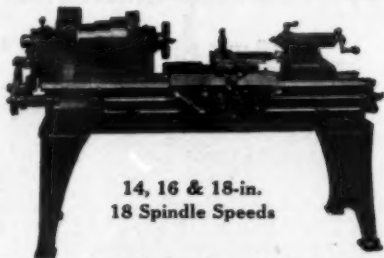
**Every detail in  
Cincinnati Lathes**

show their careful workmanship. They make right along impressions that survive. We furnish a **Quick Change** or **Standard Geared Feed Box** giving an unlimited range. Our **double wall apron** supports both ends of all shafts and studs. Want further information?

**The Cincinnati Lathe & Tool Company**

2730-32 Spring Grove Avenue, : : : Cincinnati, Ohio

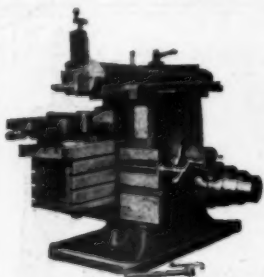
## Two "Springfield" Tools



14, 16 & 18-in.  
18 Spindle Speeds

### A Double Back Geared Manufacturing Lathe

A 3-step cone Lathe with eight more spindle speeds than the usual 5-step cone, with greater power, and with positive geared feeds to suit every variety of work. Let us mail full description.



### Springfield Shaper 25-in. Back Geared

This is another tool of unusual strength and power. The gears, driving mechanism, link and crank gear are all proportioned to deliver an unusual amount of power to the cutting tool, which makes it one of the most effective and economical Shapers ever built.

Ask for Circular No. 127

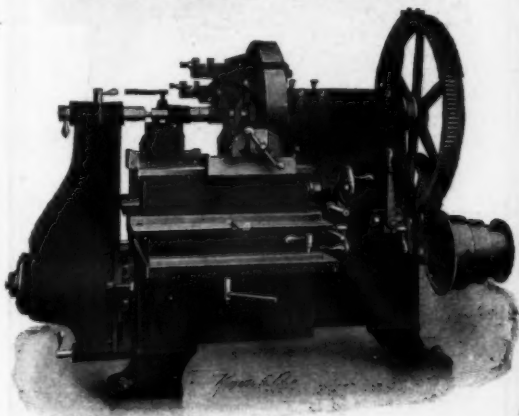
FOR SALE for quick shipment:—One 36 in. x12 ft. Double Head Planer and one 36 in. x14 ft. Engine Lathe, 3-step cone, double back geared. Both practically new and in splendid condition. We invite your inquiries.

## The Springfield Machine Tool Co.

633 Southern Ave., Springfield, Ohio

By Using The  
**Streit Pulley Lathe**

You can more than double  
your pulley production



**Every feature** is a **time saver**, being particularly adapted to this class of work.

**You get double tool capacity and a machine back of it that will let you plow in.**

When equipped with power cross feed on one side, three cuts can be taken at once on gear blanks, etc.

**The Cincinnati Pulley Machinery Co.**  
Cincinnati, Ohio

# The Monarch Lathe



**High in Quality—Low in Price**

*Ask us to tell you more about them.*

**Monarch Machine Co., Sidney, O.**



**Are You Tired of Paying Big Bills for High Speed Steel?**

## **ARMSTRONG TOOL HOLDERS**

Make 1 lb. of Tool Steel go as far as 10 lbs. in Forged Lathe and Planer Tools.

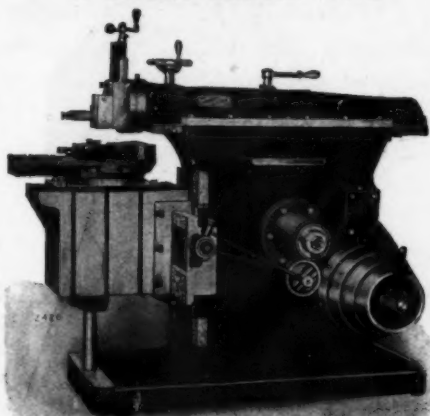
*Write for catalog—it tells other advantages*

**Armstrong Bros. Tool Co., 308 N. Francisco Ave. CHICAGO.**



# The "Cincinnati" Shaper

For the most Accurate, the Heaviest,  
or the most Difficult Work



**24-inch, Back Geared**

**NO MATTER WHAT WORK** you give it to do, it will give satisfaction in every way. Best and biggest service at lowest cost is its daily performance. Built on a good foundation, ribbed and braced internally to resist every strain, the "Cincinnati" is the most powerful shaper of its stroke on the market today. Many shop managers made it their choice after careful examination and comparison. We invite you to turn on your X-ray before making a decision.

*Send for our free Shaper Book—  
it gives reasons*

**The Cincinnati Shaper Co.**

Colerain Ave. & Elam St., CINCINNATI, OHIO

**Success The Just Reward For  
QUALITY**



The above illustration represents the No. 2 Jacobs Improved Drill Chuck, actual size.

# For **Quality Justly Rewarded With SUCCESS**

## **Our Remarkable Success**

in the sale of more than 105,500 Jacobs Improved Drill Chucks since 1903 is accounted for because of the following reasons:

1. The compact, shapely, and unique construction of the Jacobs Improved Drill Chuck appealed on sight to the mechanic, resulting in its being tested.
2. A test demonstrated its convenience, efficiency, and accuracy.
3. Continued use demonstrated its durability.

Thus it has been demonstrated by thousands of Drill Chuck users all over the world, that the Jacobs Improved Drill Chuck embodies **Convenience, Efficiency, Accuracy** and **Durability**, and this is the reason why more than 3,330 Jacobs Improved Drill Chucks were purchased during March and April, 1911.

If you are not familiar with the Jacobs Improved Drill Chuck, will it not pay you to investigate?

*Write today for our illustrated catalogue*

**The Jacobs Manufacturing Co.**  
32 Union Place - Hartford, Conn.

## Why Be Downhearted

when our

## Hoists

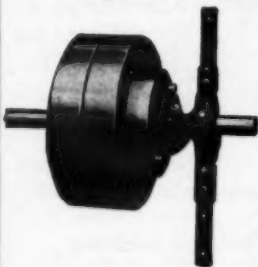
will help you to  
make money.



Hoists, Trolleys,  
Cranes, Derricks,  
Hoisters and Buckets

**Victor R. Browning & Co.**  
Cleveland, Ohio

## Simple and Efficient Edgemont Friction Clutches



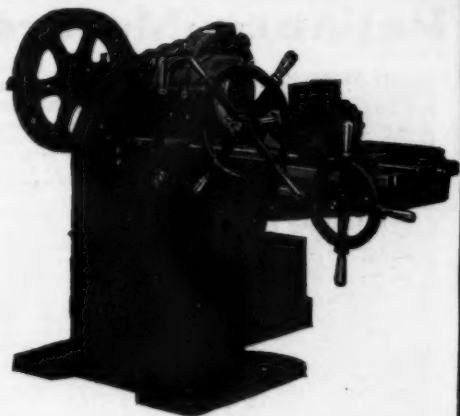
So powerful, they will not slip, and having no springs or delicate parts, they will not cause trouble under heavy duty. The patented rim friction operates easily and quietly, releasing instantly.

Cut shows our extended sleeve type for mounting wood, iron or steel Pulleys, Gears or Sprockets on the hub.

We also make this clutch Split so that it can be applied to any line shaft without taking it down or disturbing any other pulley. Our counter shaft clutches have been adopted by over 30 machine tool builders.

*Tell us what you need in clutches—we'll make 'em.  
Prices and information on request.*

**The Edgemont Machine Co.,** Ft. of Mound Street,  
DAYTON, O.



## Reliance Bolt Cutters

Built in sizes  $\frac{3}{4}$  inch to 6 inches, Single, Double and Triple, of the most up-to-date design. There is, also, a good reason why the "Reliance" is such a satisfactory machine for accuracy of threads cut, large production and low cost of maintenance, even in the hands of inexperienced labor. A lot of this reason is in the Opening Die Head, and we would like to tell you all about it. Interesting information for the asking.

**The Foote-Burt Co., Makers**  
Cleveland, Ohio

# Reliance Motors



**Will put new life into your old machines.**

You can easily change your belt driven machine tools to motor drive by using Reliance Adjustable Speed Motors.

The illustration shows a simple method used in changing a 32 in. drill press. The lower cone has been removed and the  $3\frac{1}{2}$  horse power Reliance Adjustable Speed Motor with a speed range of 300 to 1800 r. p. m. has been mounted in its place on a base. This arrangement requires no more floor space than for the belt driven machine.

The motor is connected to one of the steps of the upper

driving cone by a belt. When additional power is needed this cone can be replaced by a wide face single pulley giving if necessary, double the belt capacity of the ordinary cone drive and comparing favorably with an all gear driven drill.

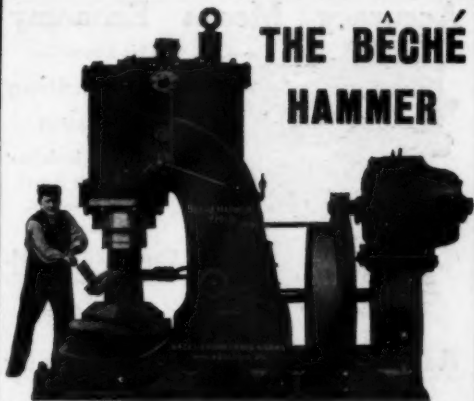
Turning the handwheel "A" shifts the motor armature, causing the speed to change quickly but smoothly to the exact point desired. No electrical controller is needed. With the Reliance Method the number of running speeds is unlimited and if a motor having the same speed ratio as the back gear is selected, an unbroken range of spindle speeds can be obtained. An automatic starter is enclosed in case "B" and the starting and stopping is controlled by the push button station "C." To start or stop the motor the operator simply presses one of the buttons. All starting conditions are automatically taken care of and every possibility of abuse to the motor or starter is eliminated.

*We are prepared to furnish complete motor equipments for machine shops and we shall be glad to show you how Reliance Motors can best be applied to your work. Ask us to send you our folder 10-L.*

**Reliance Electric & Engineering Co.**

1050 Ivanhoe Road, Cleveland, Ohio

# THE BÊCHÉ HAMMER



## Easily the Most Powerful and Efficient Hammer Made

**Hammer and Compressor Combined. No Piston  
Rods, Springs, Straps or Cushions.**

### **Simple—Durable—Reliable**

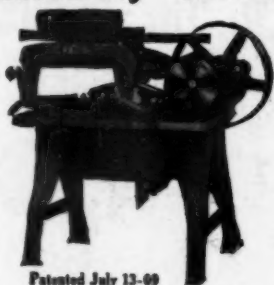
Hand or foot control. No Adjustments. Light, medium or hard blows. Uniform speed. Anvil separate but rigid. Dies at an angle. Belt drive, no counter-shafts. Motor drive, geared direct.

**Made in six sizes, from 66 to 770 lbs.  
Over 1600 in use.**

*Write for Descriptive Catalogue.*

**Nazel Engineering & Machine Wks.  
5th & Luzerne Sts., Philadelphia, Pa.**

## Accuracy Means Economy



Patented July 13-09

### This Draw-Cut Metal Cutting Machine

Will Cut 6 inch Bar  
Machinery Steel  
in 28 Minutes.

Speed 125 R. P. M.

Write for Catalog

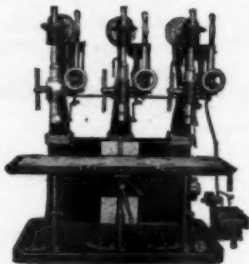
Address:

**Racine Tool & Machine Company**

Racine Junction, Wis.

Eastern Representative: Simplex Tool & Supply Co., Boston, Mass.

## Rockford Gangs



They not only drill, but they bore, ream, tap and face  
without removing work from jig.

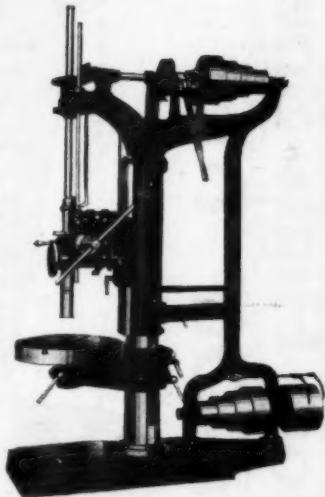
Write for descriptive matter

**Rockford Drilling Machine Company**

Rockford, Ill., U. S. A.



Why purchase an ordinary Drilling Machine such as your father used, when you can obtain an up-to-date one, with all those refinements and conveniences necessary to rapid and accurate production?



For the *same money*, you can secure a machine, with *positive geared feed*, having *nickle steel* gears cut from the solid and heat treated. With an *automatic stop* that controls friction gear, with means for taking up wear, and adjustable to slip under different loads. Breakage of drills can be avoided. With *ball bearing* thrust for spindle and pair of *jaw nuts* for adjustment. Built where *workmanship* and *finish* receive careful attention.

Our Catalog "A" now ready for distribution, gives full information. Address,

**The Superior Machine Tool Co.**  
Kokomo, Ind., U. S. A.

# Superior High-Speed Cut-Off Tool



(Patents Pending)

We obtain results with this tool impossible with all other forms, for the reason that we avoid chatter to lathe spindle, and gouging of stock when using at high speed. The gun-spring construction is of such shape as to give resiliency to cut-off blade when coming in contact with hard or soft spots in material.

We obtain results with this tool impossible with all other forms, for the reason that we avoid chatter to lathe spindle, and gouging of stock when using at high speed. The gun-spring construction is of such shape as to give resiliency to cut-off blade when coming in contact with hard or soft spots in material.

Blades are made from the highest grade of High Speed Steel, are double beveled and hollow ground, which assures smooth and accurate work at all times. The capacity of the tool is limited to pulling power of belt or cutting quality of blades.

We have cut off 5 inch Round Cold-Rolled Stock in 5 minutes on 14 inch lathe, 3 inch Nickel Steel in 2 minutes and 2½ inch Round Cold Rolled in one minute.

It is practically impossible to break blades even though extended for cutting-off large diameter stock.

We guarantee Superior High-Speed Tool Holders to do more and better work than all others.

**TERMS OF SALE**—Send us your order subject to 10 days' trial, with privilege of returning at our expense if not entirely satisfactory. Sent prepaid at following prices:

PRICES: No. 1, ½x1 ½" — ¾" Blade, weight 25 oz. \$2.50  
No. 2, ¾x1 ¾" — 7⁄8" Blade, weight 32 oz. \$3.00

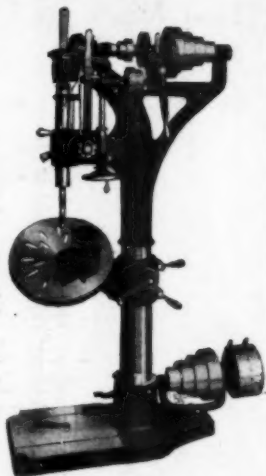
Manufactured By

## Superior Machine Tool Company Kokomo, Indiana

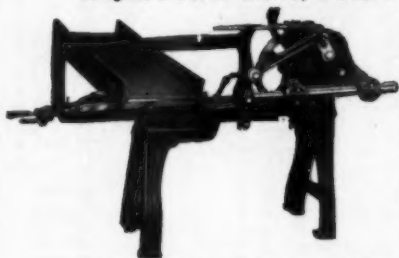
We have a very attractive proposition for Dealers.

## The One Big Feature

You can drill holes at any angle at one setting, then duplicate at a 50% saving of time with our **Tilting Table.** Look at its heavy construction to stand up for rapid production with every convenience for the operator. Get our circulars and prices today.



**Royal Power Saws, 5 Sizes.**



For all kinds of work. They excel for speed and accuracy.

*For Sale by the best dealers. Get Circulars.*

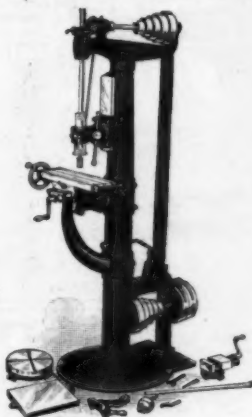
# FRONTIER IRON WORKS

Department A  
Letchworth & Grant Streets,

Buffalo, N. Y.

# Does Much and Saves Much

That's Why You Should Use The  
**No. 1 Knight Milling and Drilling Machine**



**I**TS EXTREME HANDINESS enables you to use it on all kinds of work. You never saw its equal for dies, jigs, moulds, metal patterns and experimental work. Mills, bores and drills at almost any angle without resetting the work, often doing what ordinarily would require two or more machines.

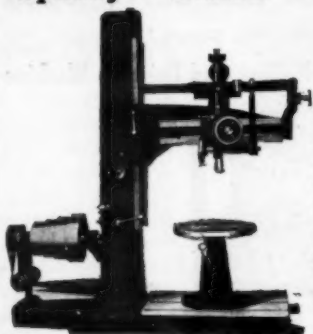
And it saves from 20 to 50 per cent of time.

*Write today for illustrated folder*

**W. B. Knight Machinery Co.**  
**St. Louis, Mo.**

Our No. 1 1-2 and 2 are heavier Machines of the same type

## Speedy—Belted—Sensitive



### Radial Drill

with all belt-drive.

This fast new driller operates without shock or jar at speeds as high as 1170 r. p. m., and reverses instantly. Drives  $\frac{1}{4}$  to 1 in. high speed twist drills at their maximum efficiency. Equally sensitive for both drilling and tapping, and is practically noiseless.

*Be sure to investigate  
this new machine.  
Write us today.*

**The Wm. E. Gang Company**

Cincinnati, Ohio

## Silver's 20" Drills

### Eight Styles

**LEVER FEED**

**LEVER and WHEEL FEED**

**POWER FEED and Automatic  
Stop**

**POWER FEED with Back Gears  
and Automatic Stop**

**Round or Square Base**

*Send for catalog*

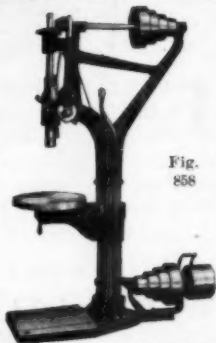
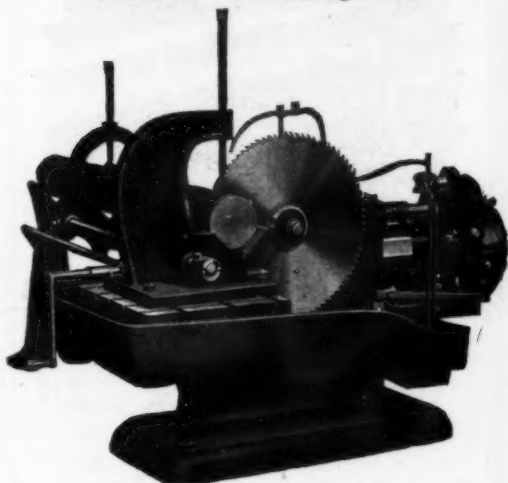


Fig.  
858

**The Silver Mfg. Co.,** 385 Broadway  
SALEM, OHIO

# Cochrane-Bly Cold Saws

The fastest and most economical  
machines for cutting steel.



**No. 6—Capacity 8 1-2 in. Bars.**

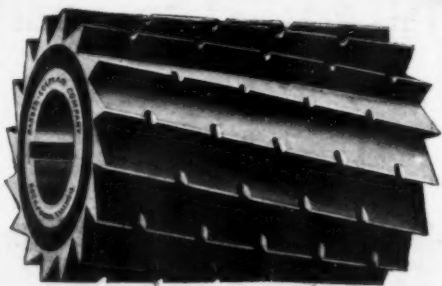
The constant speed drive and positive gear feed give 10 cutting speeds, and afford *most favorable conditions* for the saw.

The *automatic stop* and *automatic quick return* with the *rack and pinion stock-feeding fixture*, provide for accuracy and are a great economy on heavy bars, as one man can move stock forward quickly and easily for duplicate cuts.

**We make—5 Sizes Metal Sawing Machines**  
Saw Sharpeners  
Die Filing Machines.

*Ask for Catalogue*

**Cochrane-Bly Company**  
Rochester, N. Y.



## Better Milling Cutters

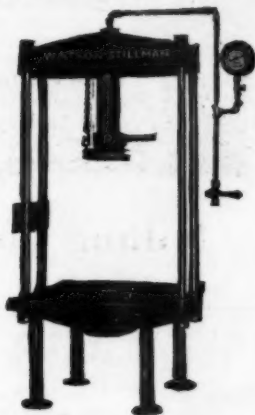
Enough better to make some especially critical users buy them in preference to any others. No doubt you would if you tried them. We can not tell you just how good they are, but a test in your own shop on your own work will clearly show it. You will find it well worth making.

**All Standard Cutters in Stock  
Specials to Order**

*Catalogue "B" tells about them  
It is yours if you say so*

**Barber-Colman Company**  
**Rockford, Illinois**

## **This Practical Dependable Hydraulic Press**



is powerful enough and shaped right to handle a big variety of press fitting, bending, straightening, etc. Its usefulness is not restricted to any one line. For instance, we have sold a number for automobile work such as pressing bearings into place, putting in bushings, taking off fly wheels, straightening frames and crank shafts, etc.

Remember we make other hydraulic tools too—punches, pumps, benders, straighteners, jacks, etc.

**The Watson-Stillman Company**

Church & Fulton Sts., New York

## Mono Rail Hoists and Over Head Track Systems



A five ton hoist operated from cab or floor. Used to transfer material from one building to another, for unloading cars, general yard work, etc.

Mono Rail Hoists and trolleys of all types.

Nothing too large or too small to receive our careful and prompt attention.

**The Euclid Crane & Hoist Company**  
Euclid, Ohio, U. S. A.

## == I Want A Job ==

Nothing handier for your men, except their pay check.



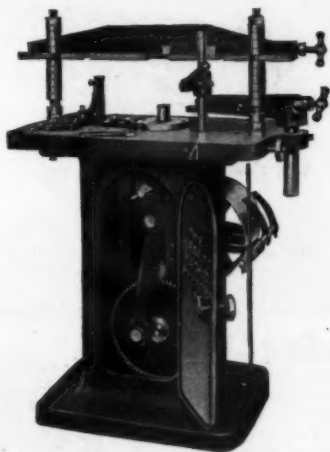
in every machine shop (no matter how well equipped) because I can save each year more than four times my cost. I will work 30 days **Free-of-Charge**. If I don't *make good* ship me back home. My first cost is the last. Am always on the job. Never get out of order. You have an opening of course, but will you **give me a chance to make good?**

**"The Handiest Tool in the Shop"**  
Portable Floor Crane and Hoist

**WAKE UP and write**  
for my cost to

**CANTON FOUNDRY & MCHE. CO., Canton, O.**

# Accurate Machine Tools



## **Davis Keyseater**

**Made in two sizes**

Suitable for internal keyseating in pulleys, gears, etc.

A simple, well made tool, giving a large output at a small cost.

No expert operator required.

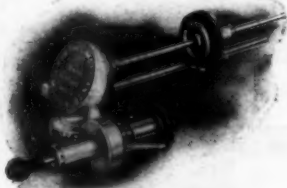
Orders can be sent to us direct or through leading machinery dealers in all parts of the world.

*For further particulars address*

## **The W. P. Davis Machine Co.**

**Rochester, New York, U. S. A.**

## Grinding Lathe Centers



Is an every-day job in almost every shop. Can every lathe operator down to the apprentice do an absolutely perfect job with your present means? He can with the Wilmarth & Morman Center Grinder. "A Brief Treatise on Lathe Center Grinding" sent free on request.

## Grinding Drills

Can your boy grind your drills in less time and do a better job than the "old man"? Yes, if you have one of these new style WPL New Yankee Drill Grinders. They save four-fifths of the breakage of drills and reduce wear about one-half also, to say nothing of added drilling efficiency. We also make surface grinders, cutter and reamer grinders, etc.



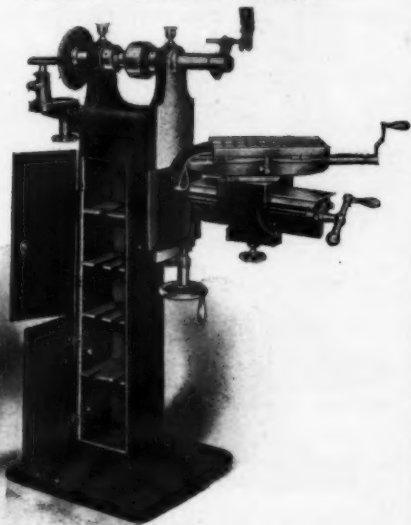
*Complete catalog free*

**Wilmarth & Morman Co.**

575 Canal St., Grand Rapids, Mich.

## **GARVIN** **Universal Cutter and Surface Grinder**

Simple, light running, easy to set, accurate, large capacity and  
all varieties of cutters provided for. Will grind Cutters  
14 in. x 6 in. and Surfaces 6 in. x 9½ in.



**Use Code—Banish**  
**IMMEDIATE DELIVERY**

**FOR FURTHER } ASK YOUR DEALER**  
**INFORMATION } OR**  
**WRITE US DIRECT**

*Send for Pamphlet No. 170*

**THE GARVIN MACHINE CO.**  
**Spring and Varick Sts., New York City**

# The Nutter-Barnes Me

The Profitable Kind Because

Our Metal Sawing-Off Machines, of recent design, give the best results in cutting steel of all kinds.

The latest models have a special spur gear drive, which enables us to use a thin saw of small diameter to cut large bars. This effects a considerable saving in material, which is a big item in expensive steels, and also saves in the cost of large diameter saws.

If you are not already using one of our outfits, why longer delay reducing your Cutting-Off Costs?



**24" Automatic Saw Sharpener.**

The Cutting-Off Machine's companion. A crack-erjack tool that operates on 100 saw teeth per minute. Built in 7 sizes, from 3 in. to 36 in.

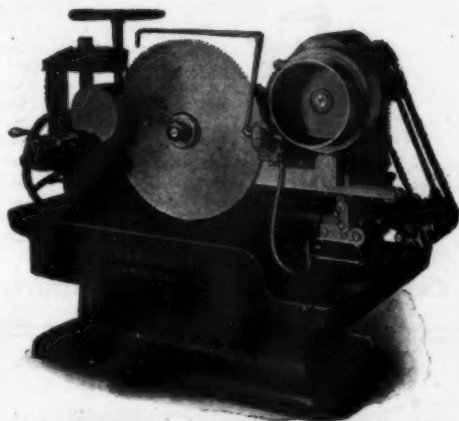
# es Metal Cutting Tools

Because They Reduce Costs

ent design,

rive, which  
to cut large  
material, which  
in the cost

outfits, why



**8-inch, 1911 Model, Metal Sawing-Off Machine.**  
(Made in sizes 4, 6, 7, 8 and 10 inch.)

By removing the V work shoe, provision is made to use a bevel gauge on the plain work table for cutting flats, squares and structural shapes at an angle. Either counter-shaft or motor drive.

All of our recently designed Sawing-Off Machines have the above style of base and gear feed.

*Send today for latest data on modern metal cutting*

**Nutter & Barnes Company**  
326 A Street, Boston, Mass.

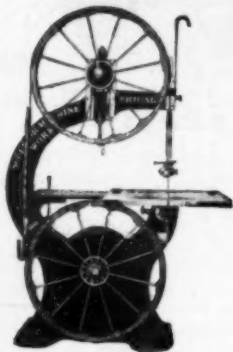
## Oil Saved is Money Saved

**The Curtis Extractor reduces your oil bills—today—tomorrow—next year**



**No. 400—Capacity: 2 Bushels** This simple, ball bearing machine pays its own cost in a short time, and after that the saving goes into your pocket. It enables you to use the oil extracted from your chips and shavings over and over again—all for one initial cost. The Curtis is a practical well-made machine, that does the work rapidly and easily, and uses but little power. The three sizes may be had with a steam attachment for cleaning waste, if desired.

**Curtis Oil Extractor Company**  
95 Foster St., Worcester, Mass.



## A Complete Line

of modern Machinery for Pattern Shops, and all wood working plants.

*See our line before buying*

**Jones Superior Machine Company**  
1726 Dickson St., Chicago, Ill.

# Special Wood Working Tools

## For Pattern Shops

Machines selected for their precision, and adjustability. Built like machine tools, and designed primarily for pattern shop service.

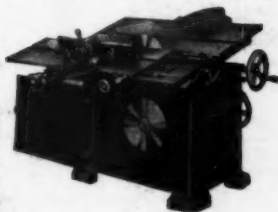
### "West Side" Band Saw

Steel wheels, which can neither break, warp, twist or spring; under cut hubs; self-oiling bearings; brass-bushed loose pulley; tilting table; all adjustments made by operator without leaving his position. A band saw widely known for its superiority of design and construction.



### Tannewitz Universal Double Saw Arbor

The last word in saw tables for accuracy and convenience. Gauges and adjustments for every possible requirement. A notable improvement upon a type of saw table conceded to be indispensable in every pattern shop.



### Porter 20-Inch Jointer

The highest grade jointer or hand planer in market. Patented guard and safety cylinder; specially grooved tables.

We outfit pattern shops complete, guaranteeing the accuracy and efficiency of every tool. Whether you want a full equipment or a single machine, you will find our service helpful.

*We shall be pleased to have you consult us*

## Chicago Machinery Exchange

Manufacturers' Exclusive Representatives

1219-1227 W. Washington Blvd., Chicago

Can furnish used machines, if desired, carefully rebuilt in our own shops and fully guaranteed.

# Why Not Remove Factory Dust Scientifically?

## The Morse "Rarefied" Collector Does It That Way

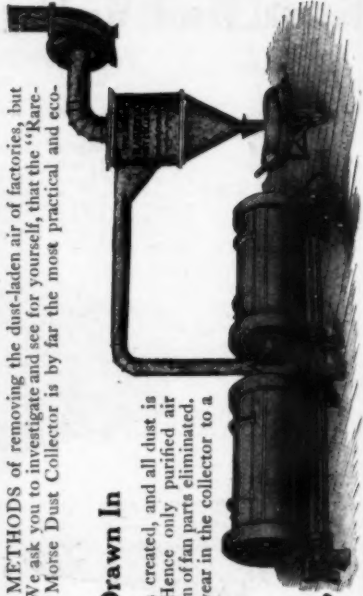
THERE ARE MANY METHODS of removing the dust-laden air of factories, but there is only one best way. We ask you to investigate and see for yourself, that the "Rarefied" principle applied by the Morse Dust Collector is by far the most practical and economical method.

### The Air is Drawn In

because of the partial vacuum created, and all dust is removed in the collector. Hence only purified air reaches the fan, and all abrasion of fan parts eliminated. The axial air escape reduces wear in the collector to a minimum.

**OUR BOOKLET**  
*gives facts and figures*

**The Knickerbocker Co.,**  
Jackson, Mich.





## DIVIDEND EARNERS

every one  
of them.

**They're Noiseless  
too.**

Rivet heads perfect  
every time.

Output one rivet  
per second.

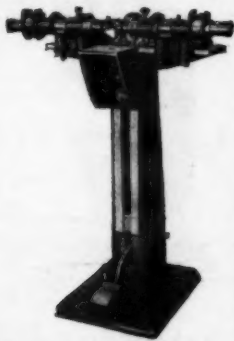
Finish better than  
can be obtained by  
any other machine now on the market. Send samples  
to be riveted.



*Catalog*

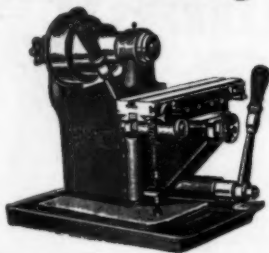
**Grant Manufacturing & Machine Co.**

**C. E. Station, Bridgeport, Conn.**



Samples of work done shown on opposite page.

## Bench Milling Machine



### New Model

Please note style of the column, which is designed to support front end of spindle where support is most needed.

*Send for circular*

## The Carter & Hakes Co.

West Winsted, Conn., U. S. A.

AGENTS—Marshall & Huschart Mchry. Co., Chicago, St. Louis, Indianapolis; Motch & Merryweather Mchry. Co., Cleveland, Detroit, Cincinnati, Pittsburg; Henshaw, Bulkley & Co., San Francisco, Los Angeles, Oakland, Cal.



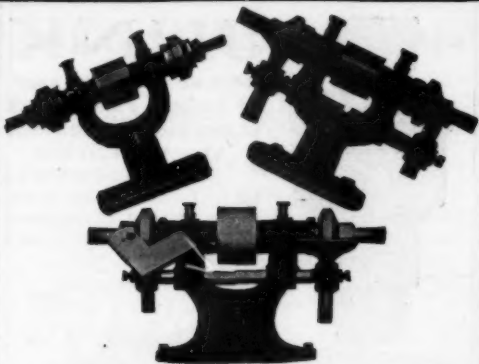
HIGH DUTY  
**ROCKFORD**  
PUNCH PRESSES

Offer special and individual points of merit. Straight line Frame. Extra large Shaft and liberal Bearings and proper distribution of metal.

Let us explain to you in more detail than possible in this small space.

## Rockford Iron Works

Rockford, Illinois



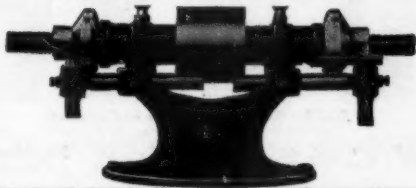
## Partridge Emery Grinders

Here are four well-made Bench Grinders, adapted to light, medium and heavy work. Also furnished mounted on column. In addition, I make a high-grade heavy Floor Grinder of the cabinet type, thus being able to meet all demands for this class of tools. They are all well built, of the right materials, and have features of excellence that will interest you.

*Tell me your needs in this line, and I will gladly mail full description and quote interesting price*

**E. O. PARTRIDGE**

2047-9 Lake Street, - - CHICAGO  
Also Foot Presses and Tapping Machines





# JUNK

Men do not get the caps  
Of Tucker's Positive Lock  
Compression Grease Cups

They Won't Jar Off

For Automobiles and all  
kinds of machinery having ex-  
cessive vibration. Sample sent  
by mail on receipt of cash, check  
or money order.

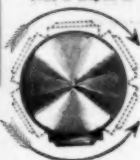
Made in three sizes

		Price
No. 000	$\frac{3}{4}$ in. $\frac{1}{2}$ in. pipe	\$0.30
No. 00	1 in. $\frac{3}{4}$ in. pipe	0.40
No. 0	1 $\frac{1}{4}$ in. $\frac{3}{4}$ in. pipe	0.50

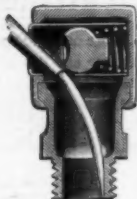
PATENTED JANUARY 11, 1910

## Tucker's Oil Hole Covers

No. 5 Style B



Self Closing



Style C, Self Closing

Note the indent of ball valve on styles B & C

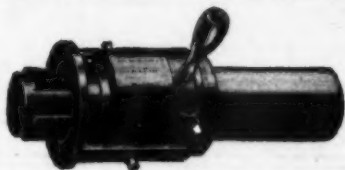


Send for Catalogue of full line of Covers for  
all kinds of machinery having oil holes

**W. C. & F. C. Tucker,** Hartford, Conn.

# **A Long-Lived Tap** **Is** **The Geometric Collapsing Tap**

Even one set of its Chasers will far outlast any solid tap, and will also do accurate work throughout their life. When worn beyond the possibility of further use, they may be replaced at small cost, and the Tap is as good as new.

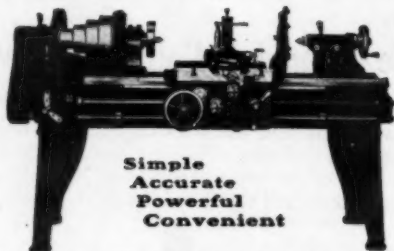


These Taps are furnished for numerous lines of work where threads of 1 inch or larger diameters have to be tapped, either straight or of standard pipe size, and can be fitted for use on the turrets of Screw Machines, Brass Finishing Lathes and other Turret Head Machines, as well as for rotating on live spindles if desired. When the required length of thread is reached, the Chasers collapse, and the Tap can be immediately withdrawn.

*We have a Booklet describing our Collapsing Taps of both  
Standard and Special Types, and should be glad  
to send you one upon request*

**The Geometric Tool Company**  
**New Haven, Conn.**

## Standard Engine Lathes

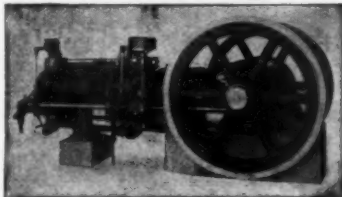


**Simple  
Accurate  
Powerful  
Convenient**

Furnished with either standard cone or with 3-step cone double-back-geared, **carrying a wide belt**, with 18 spindle speeds and wide feed range.

**GREAVES, KLUSMAN & CO.**  
Cincinnati, Ohio, U. S. A.

## A Verdict Against Gas



**20 to 200 h. p.**

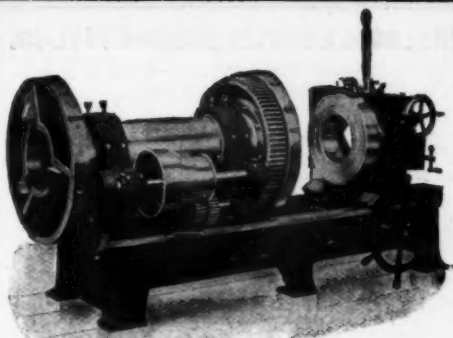
to judge whether you could use gas power to advantage.

If you are interested, investigate our "Little BIG ENGINE." Gives unequalled service with producer, natural or manufactured gas and gasoline.

*Get posted first. Send for our free book, and know what you can use.*

**The Elyria Gas Power Co.**  
Elyria, Ohio

That's exactly what you may give after reading our free Bulletin No. 22, "Efficient Gas Power." It is full of vital facts, and will enable you



## A Power Pipe Machine For Your Exact Needs

Our 17 styles and sizes afford a selection so you can get the machine that *fits your work*.

The Peerless, P. D. Q. C. and Duplex pipe threading and cutting-off machines are good for all diameters from  $\frac{1}{4}$  inch to 18 inch.

As you know, making up fittings requires more power and is harder on a machine than the cutting of threads, but our machines stand up perfectly doing this kind of work. They are all fitted with Peerless adjusting mechanism. Belt or motor drive.

*Catalog? Of course! And let us know just what your needs are. Our recommendations will be tempered by our long experience in fitting up shops of all sorts.*

**Bignall & Keeler Mfg. Co.**  
Edwardsville, Ill.

## **THE LODGE & SHIPLEY MACHINE TOOL CO.**

**Second-Hand Machine Tools  
For Sale at Bargain Prices.**

### **LATHES.**

One 24 in. x 8 ft., 5 step cone head, quick change gear, Lodge & Shipley Engine Lathe.  
Two 3½ in. x 60 in. Fitchburg Lo-Swing Lathes.  
One No. 3 Lodge & Shipley Rapid Reduction lathe, with 8 ft. bed.

### **PLANERS.**

One 36x36 in. x 10 ft., 3 head, Sellers.  
One 36x36 in. x 28 ft., 4 head, Sellers.  
One 42x42 in. x 20 ft., single head, Putnam.

### **MISCELLANEOUS.**

One Whiton Revolving Centering Machine.  
One Franklin Cold Saw, 3½ in. capacity.  
Two No. 3 Nutter-Barnes Cold Saws, 6 in. capacity.  
One No. 2 Higley Cold Saw, 6½ in. capacity.  
One Schuster ½ in. Riveter, Model "A."  
One Mumford 12x40 in. power ramming Molding Machine.  
One Globe Power Hack Saw, 8 in. capacity.  
One Universal Power Hack Saw, 6 in. capacity.

**The Lodge & Shipley Machine Tool Co.  
CINCINNATI, OHIO, U. S. A.**

## **Attention, Machinery Buyers**

**This Lot of High Grade Machine Tools at Bargain  
Prices. Must Move Them at Once.**

### **Lathes.**

One 14 in. x 8 ft. Cisco, quick change.  
One 16 in. x 6 ft. Hamilton, quick change.  
One 32 in. x 18 ft. Fay & Scott, heavy duty.

### **Milling Machines.**

20 in. Oesterlein, plain.  
20 in. Oesterlein, universal.  
25 in. Oesterlein, universal, all feeds.  
24 in. Oesterlein, plain, all feeds.

### **Drills.**

One 12 & 16 in. Hamilton, sensitive.  
Four 20 in. Sibley, w. and l.  
One 22½ in. Sibley, back geared, power feed, automatic stop.  
One 28 in. Sibley, back geared, power feed, automatic stop.

### **Planers.**

36x36 in. x 10 ft. Hamilton, heavy duty.  
33x33 in. x 12 ft. Ohio, 2 heads.

### **Shapers.**

One 20 in. Smith & Mills, triple geared.  
One 24 in. Hamilton, back geared crank.

### **Grinders.**

One No. 2 Oesterlein, universal.

**The Lake Erie Nail & Supply Co.  
Machinery                      Cleveland, Ohio.**

**Do You Want To**  
**Hire A Factory?**  
**If You Are The Man**

who has perfected a good machine, you need a factory to produce it in quantity. To build this factory will take lots of money and time. To run the factory will take more money and pretty near all of your time—time which you ought to use selling the machine. Our proposition is simply this:

**Let Us Do The Work**

of manufacturing, while you are attending to the more profitable work of marketing your machine. We have been doing this for years for other people, including Uncle Sam. We have a modern, thoroughly equipped plant, and a factory organization that will insure the elimination of costly mistakes, both in respect to costs and workmanship. Our experience will give you a machine that will not come back because of unnoticed defects of design or construction.

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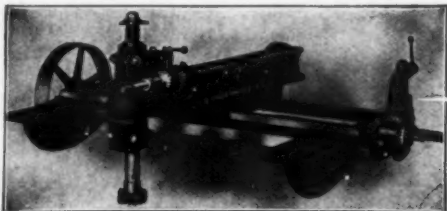
Tell us what you have and we will submit figures for your comparison, so you can judge whether we could save you money. This will cost you nothing and may give you ideas which will lead to your sure success.

---

**C. H. Cowdrey Machine Works**  
**Fitchburg, Mass.**

# Portable Milling Machine

**For Rapid and Dependable  
Work on Railway and  
General Repairing**



**YOU CAN SAVE** both money and time by taking a machine to the work, instead of taking the work to the machine. In many cases one or two jobs will pay the entire cost of the tool.

Our Portable Miller was designed for facing steam engine valve seats in solid steam chests, but was soon found useful for a wide range of various kinds of work. It has power feed in both directions, and can be used in any position, horizontal, vertical or inclined. Will face a valve seat 22x40x7 in. Can be run by hand wheel, small steam engine, air or electric motor. We build any size to order.

*Write us your requirements, and we will state  
exactly what our machines can do for you*

**H. B. Underwood & Company**  
1022 Buttonwood St., Philadelphia, Pa.

## Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of **40 cents a line**, across the page, each issue, with a minimum charge of **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. Prices and full descriptions of the machines listed will be furnished by the parties offering them for sale. If you do not find what you require, use the slip inclosed with each book to make known your wants to the publisher.

### FOR SALE BY

**International Watch Co.,** . . . . . **Jersey City, N. J.**

List from E. Bunzl, Treas., 313-315 Broadway, New York.

Blower, No. 6 Stillwell.  
 Buffing plant.  
 Drill presses, bench.  
 Lathes—Sloan pinion, staff, buffing, case, bench, spring, and watchmakers.  
 Spring winding machine.  
 Stud and pin machine, Hartford.  
 Wheel and gear cutters, Sloan & Chase.  
 Wigwags, and other machinery.  
 Prices ridiculously low.

### FOR SALE BY

**Frank Toomey, Inc.,** . . . . . **127 N. Third St., Philadelphia, Pa.**

#### HAMMERS AND RADIAL DRILLS.

800 lb. Bement Miles & Co., single frame hammer.	36 in. Morris radial drill. 48 in. Gang radial drill (2).
---	--

#### LATHES.

12x6 Hendey, tool room, full eqmnt.	22x16 Draper.
20x10 Rahn-Carpenter gap lathe.	24x14 Rahn-Carpenter.
21x12 Lodge & Davis.	26x16 Fitchburg.

#### MISCELLANEOUS.

Grinders, oscillating surface, Springfield No. 5 (2).	Press, PG-5 Ferracute.
Miller, slab, 36 in. x 12 ft., heavy.	Profiler, No. 13 Pratt & Whitney.
Miller, vertical, No. 22 Garvin.	Shaper, 24 in. Gould & E., b. g.
Pipe machine, 8 in. Eaton, Cole & B.	Shaper, 26 in. Gould & Eberhardt.
	Turret lathes, No. 14 Garvin (2).

### FOR SALE BY

**The Randle Machinery Co.,** . . . . . **1739 Powers St., Cincinnati, O.**

#### BOILERS.

Horiz. tubular, from 6 to 150 h. p.  
 Fire box, from 8 to 80 h. p.  
 Vertical, from 3 to 50 h. p.

#### ENGINES.

Codless, from 50 to 350 h. p.  
 Automatic, from 150 to 180 h. p.  
 Throttling, from 5 to 225 h. p.

#### PULLEY LATHE.

60 in. Stevens.

#### ELECTRIC GENERATORS.

30 k. w., direct connected.  
 20 k. w., direct connected.  
 18 k. w., belted.

#### PLANER.

42x16 Bement-Haugherty.

#### AIR COMPRESSOR.

8x6x9 locomotive type.

#### BLOWER.

No. 5 Sturtevant.

#### MISCELLANEOUS.

Heaters, tanks, pumps, exhausters, electrical saw mill and general machinery.  
 Write for list. Also a full assortment of new machinery.  
 Sole manufacturers of the celebrated "Leader" Injectors and Jet Pumps.

## SECOND-HAND MACHINERY

### FOR SALE BY

**J. J. McCabe,**

**30 Church St., New York City.**

A quick sale of Modern Tools—of recent design—all in fine condition.  
Buying opportunities that come only when a big shop is selling out—we are naming prices on these Machines that will bring our friends after them.

#### UPRIGHT BORING MILLS.

- 120 in. swing, double head, motor driven, Niles,
- 84 in. swing, single head, belt driven, Bement.
- 62 in. swing, double head, belt driven, Niles.
- 42 in. swing, double head, motor driven, King.
- 42 in. swing, double head, belt driven, Bullard.
- 37 in. swing, double head, belt driven, Bullard.
- 30 in. swing, turret head, belt driven, Bullard.

#### HORIZONTAL BORING MACHINES.

- Heavy double-column floor boring, drilling and tapping machine with 3-in. spindle, Niles-Bement-Pond.
- 3 in. bar, "knee type" with table adjusted in all directions, Newark.
- 24 in. bar, "knee type" with table adjusted in all directions, Bement.

#### MILLING MACHINES.

- Standard, plain large size, table 60 in. with all auto. feeds, wt. 6000 lbs.
- Planer type, 36 in. x 11 ft., Newton.
- Planer type, 30 in. x 9 ft., Niles Tool Works.
- Planer type, 22 in. x 5 ft., Ingersoll.

#### RADIAL DRILLS.

- 7 ft. arm, semi-universal, Bement.
- 5½ ft. arm, plain, Harrington.
- 5 ft. arm, plain, Prentice Bros.
- 4 ft. arm, speed-box, Prentice Bros
- 4 ft. arm, semi-universal, Niles Tool Works.

#### TURRET LATHES.

- 2x24 in. flat turret, with tools, Jones & Lamson.
- 24 in. with chucks and tools, good as new, Gisholt.
- 27 in. with chucks, Gisholt type, American.
- 18 in. screw machine, 2 9-16 in. hole, friction-head, turret feed, Dreses.

#### SLOTING MACHINES.

- 8 in. stroke, auto. feeds, Newark.
- 12 in. stroke, auto. feeds, Sellers.
- 16 in. stroke, auto. feeds, Bement.
- 24 in. stroke, auto. feeds, Sellers.

#### ENGINE LATHES.

- 16 in. x 8 ft., geared hd., qk. change, Cincinnati.
- 20 in. x 8 ft. compound rest, Pond.
- 20 in. x20 ft. compound rest, Bement.
- 22 in. x10 ft. comp. rest, Harrington.
- 25 in. x12 ft. comp. rest, Harrington.
- 26 in. x10 ft. comp. rest, Pond.
- 28 in. x15 ft. comp. rest, Bement.
- 30 in. x14 ft. comp. rest, Harrington.
- 30 in. x17 ft. comp. rest, Pond.
- 30 in. x23 ft. comp. rest, Pond.
- 33 in. x14 ft. comp. r., New Haven.
- 42 in. x18 ft. triple geared, Johnson.
- 45 in. x16 ft. tr. gd., New Haven.
- 48 in. x24 ft. triple gd., Fitchburg.
- 50 in. x32 ft. triple geared, Putnam.
- 54 in. x21 ft. triple gd., Fitchburg.
- 66 in. x24 ft. triple geared, Bement.
- 72 in. x18 ft. triple gd., Fitchburg.
- 90 in. x20 ft. triple gd., Fitchburg.

#### PLANERS.

- 22 in. x 22 in. x 5 ft., Pratt & W., 1 hd.
- 24 in. x 24 in. x 6 ft., Sellers, 1 head.
- 26 in. x 26 in. x 6 ft., Putnam, 1 head.
- 26 in. x 26 in. x 7 ft., New H., 1 hd.
- 27 in. x 27 in. x 8 ft., Powell, 1 head.
- 30 in. x 30 in. x 6 ft., Putnam, 1 head.
- 32 in. x 32 in. x 8 ft., Pond, 2 heads.
- 36 in. x 36 in. x 8 ft., Pond, 2 heads.
- 36 in. x 36 in. x 12 ft., Gray Co., 2 hds.
- 36 in. x 36 in. x 10 ft., Bement-Miles, 2 heads.
- 37 in. x 37 in. x 26 ft., Niles, 2 heads.
- 42 in. x 42 in. x 14 ft., Pond, 1 head.
- 48 in. x 48 in. x 7½ ft., Sellers, 1 head.
- 48 in. x 48 in. x 12 ft., Bement-Miles, 2 heads.
- 72 in. x 72 in. x 26 ft., Sellers, 4 heads.

#### BOILER TOOLS.

- 8 ft. hydraulic riveter.
- 6 ft. hydraulic riveter.
- 10 ft. bending rolls, drop housing.
- 6 ft. bending rolls, heavy.
- 24—19 in. gaps, punches and shears.
- 15 in. dble. punch, Hilles & Jones.
- 9 in. single punch and s., Hilles & J.
- 8 in. dble. punch and shears, Long & Allstatter.
- 6 in. horiz. flange punch.

## SECOND-HAND MACHINERY

**J. J. McCabe—Continued.**

### MISCELLANEOUS.

Bolt cutter, 1½ in. Acme.  
Cutting-off machine, 3 in. Pratt & W.  
Drill, multiple, 8 spindle, Hill-Clark.  
Drills, upright, 14 to 50 in. swing.  
Gear cutter, 24 in. Becker-B. auto.  
Gear cutter, 30 in. Gould & E. auto.

Grinder, surface, Walker.  
Hammer, steam, 600 lb. Bement.  
Hammer, steam, 4,000 lb. Sellers.  
Nut tapper, 6 spindle Acme.  
Shapers, 10, 14 and 20 in. strokes.  
Engines, boilers, pumps, etc.

### FOR SALE BY

**The Cincinnati Planer Co.,**

**Cincinnati, Ohio.**

Second-Hand Tools—Bargains!

#### PLANERS.

24x24x6 s. h. standard Cinti.....\$ 500  
30x30x14 d. h. l. p. Cinti..... 1,000  
30x30x15 Cincinnati, s. h. arr. for  
d. h. l. p. .... 1,000  
34x24x12 Cinti, d. h. .... 1,100

72x60x12 Pond, s. h. & s. h. ....\$2,200  
74x56x20 L. W. Pond, 2 heads,  
replaned and overhauled..... 2,600  
Niles floor head..... 275

#### LATHES.

18x8 Lodge and Shipley.....\$375  
18x8 Rahn-Carpenter..... 375

36x8 American chucking.....\$375

#### MISCELLANEOUS.

Balancing way, No. 3 Bowsher \$ 25  
Cranes, hand, 5 ton, 30 ft. span  
without hoist, (2) each..... 250  
Drill, 24 in. Cinti, upright, bk.  
gr., pr. fd., tapping att..... 195  
Grinder, wet tool, No. 1 Safety.. 95

Hoist, 4 ton, Harrington.....\$ 48  
Hoist, 5 ton, Chisholm & M..... 56  
Hoist, 8 ton Y. & T., triplex..... 80  
Variable sp., No. 3 Reeves, c. s., 20  
Variable sp., No. 4 Reeves, c. s., 30

All of the above machinery is in first-class condition. Prices f. o. b. Cincinnati.

### FOR SALE BY

**J. W. Wright & Co.,**

**2nd and Morgan Sts., St. Louis, Mo.**

#### LATHES.

11x 6 Rockford.  
13x 5 plain turret.  
16x 8 LeBlond.  
18x 8 Mueller.  
18x10 Rahn.

20x12 Gray.  
24x 8 American.  
24x10 Barker.  
24x12 Fitchburg.  
41x14 lathe.

#### DRILLS.

1 spindle sensitive.  
13 in. Stanley.  
20 in. Mechanics, b. g.

4 spindle sensitive.  
7 spindle sensitive.

#### PLANERS.

15x15x30 in.  
22x22 in. x 4 ft. Rochester.  
22x22 in. x 8 ft. Wheeler.  
24x24 in. x 5 ft. Industrial.

24x24 in. x 6 ft. Whitcomb.  
24x24 in. x 8 ft. Pease.  
36x36 in. x12 ft. Gray.

#### PRESSES.

No. 2 Swaine, foot (5).  
No. 27 Swaine, power.

No. 35 Swaine, power (2).  
No. 4 Consolidated, power.

#### MISCELLANEOUS.

Blower, No. 2 Roots.  
Bolt cutter, double, 1½ in. National.  
Borer, pulley, 36 in. Streit.  
Cock grinder.  
Cutter grinder, Cincinnati.  
Hammer, power, No. 4 Perfect.  
Keyseater, No. 2 Davis.  
Lathe, pulley, 30 in. Henley.

Milling machine, plain, No. 25 Becker-Brainard.  
Motors, 5 h.p., a.c., 220v., 60c. 3ph. (2)  
Motor, 10h. p., d. c., 500 v., 1250 r.p.m.  
Pipe machine, 2 in. Jarecki.  
Squaring shear, 50 in. Excelsior.  
Tapper, ½ in. W. & R.  
Turret lathe, 2x24 Jones & Lamson.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The E. L. Easley Mch Co., 555-557 Washington Blvd., Chicago, Ill.**

A partial list of used machinery for quick delivery. We have a large stock of new machine tools not listed here. If you don't find here what you want, write us, giving sizes and detail. Our stock is changing constantly and we may have what you want. Special prices quoted this month on account of limited room.

#### DRILLS.

4 spindle Quint turret drill.  
6 spdl. No. 3 Garvin, mult., table fd.  
4 spindle 20 in. W. F. & J. Barnes  
gang drill, all spdls. p. f., 1 sp. b. g.  
4 spindle Barnes Drill Co.'s all gd.  
gang drill, b. g. and p. f.  
3 spindle H. & W., h. s., sens.  
23 in. Barnes back geared and p. f.  
22 in. Bickford, sliding head.

25 in. Barnes sta'ry hd., b. g. and p. f.  
18 in. Baker Bros. high speed drill  
presses, complete, (2.)  
26 in. W. F. & J. Barnes, sliding  
head, drill complete; fine condition.  
28 in. Hamilton, sl. hd., b. gd., p. f.  
28 in. Moline, sliding head, upright.  
1 spindle H. & W., sensitive.  
3 ft. Dreses, plain radial, spd. box.

#### ENGINE LATHES.

14x6 Flather, compound rest.  
14x6 Bradford, comp. rest.  
14x6 American, plain rest.  
14x7 Blaisdell, taper attachment.  
15x6 Walcott, back geared, rebuilt.  
16x6 Muller, hollow spindle, p. c. f.  
16x6 American, c. r., late pattern.

21x10 Fifield, compound rest.  
20x6 Flather, overhauled, fine cond.  
14x5 Flather, r. & f. rest.  
24x12 Perkins, c. r., good order.  
28x26 Fitchburg, b. g., c. r., blocks to  
swing 44 in.; good order.  
34x14 Fitchburg, c. r. & taper.

#### MISCELLANEOUS LATHES.

No. 21 Garvin, plain head, Monitor,  
12-16 in. hollow spindle.  
No. 212 in. Foster plain hd. Monitor.  
14 in. Monitor, plain head, F. K.  
13 in. Gisholt, standard turret, comp.

28 in. Gisholt, standard turret, comp.  
30 in. x 8 ft. P. & W., pl. hd. chucking  
lathe, 24 in. 4-j. chk., p. f. to t. s.  
Pearson b. g. hub machine, like  
turret lathe, 23 in. h. s.

#### PLANERS AND SHAPERS.

Planer, 16x16x24 Putnam, 1 head.  
Planer, 24x24x5 Betts, 1 head.  
Shaper, 12 in. Gould & E., s. g. crank.

24x24x6 Pease, 1 head.  
26 in. Lodge & Davis, geared.  
Shaper, 16 in. Hendy, friction.

#### SCREW MACHINES.

3 in. Cleveland, standard auto-  
matic, 5 hole turret.  
No. 6 Warner & Swasey, 2 in. cap.  
18 in. Lodge & D., w. f., a. c., 2 in. cap.  
No. 12 1/2 Garvin, w. f., a. c., 2 in. cap.

7-16 in. Cleveland automatic.  
7 in. Bardons & O., g. f. h., p. feed  
to turret.  
No. 2 Pearson, complete, 1 1/2-16 in.  
w. f. capacity.

#### MISCELLANEOUS.

Air hammer, No. 66 Ingersoll-Rand,  
long stroke, nearly new.  
Baling press, Champion, for baling  
scrap tin or iron.  
Blower, steel, No. 10 Sturtevant, 7 ft.  
high, 18 in. outlet.  
Bolt cutter, 2 in. Bement, single.  
Bolt pointer, 1 in. Adams.  
Buffing lathe, 2 h. p. motor drive,  
110 volts, d. c.  
Cold saw, 20 in. Hurke.  
Cold saw, No. 4 Keystone, 4 1/2 in.  
Cold saw, No. 14 Higley, fine order.  
Cutting-off & st. mach., Shuster,  
3 & 2-16 in. heads, 30 in. long.  
Cranes, portable shop, 1 & 2 ton.  
Gear cutter, 24 in. Brainerd, s. & b.  
Grinder, cutter & reamer, Cincinnati.  
Grinder, plain, Brown & S., 12x18 in.  
Grinder, 10x32 in. Landis.  
Grinder, cock, W. & S., single spdl.  
Grinder, disc, 20 in. Ransom.  
Grinder, 20x3 in. Diamond, single  
wheel, wet.

Hammer, steam, 1,250 lbs. Morgan,  
single frame.  
Keyseater, No. 2 Mitts & M., 13 in.  
Keyseater, No. 4 Morton, 18 in.  
stroke, cap. up to 2 1/2 in.; complete.  
Miller, No. 3 American plain, b. g.  
No. 1 Farwell gear hobber, 12 in.,  
nearly new.  
Pipe mche., 4 in. Borden, complete.  
Profiler, 2 spindle, Ames, fine order.  
Pulley boring machine, 36 in. Streit.  
Punch press, V. & O. double crank,  
st. s. with power feed rolls, fine.  
Punch presses, Nos. 2, 3 & 4 Am.  
Can Co., o. b. inc.  
Punch presses, Nos. 15 & 20, o. b. inc.  
Punch or shear, cap. 1 1/2 in. Her-  
cules, 11 in. throat, gd. sgl. end,  
wt. about 10,000 lbs.  
Rivet spinner, 3 in. National.  
Riveter, 3 in. Shuster, deep throat.  
Shaft straightener, power, for 5 in.  
shafts, 24 ft. long; heavy, large mch.  
Threading mche., roll, Rudolphi & K.

## SECOND-HAND MACHINERY

### FOR SALE BY

Joseph T. Ryerson & Son, - 16th and Rockwell Sts., Chicago

### POWER PUNCHES.

Item.

- 618 Fisher coping and notching machine.
- 619 Whiting, 15 in. archt. jaw punch, cap.  $\frac{3}{4}$  in., with plate and angle shears.
- 287 Cleveland 90 in. mul. punch, cap. thirty 13-16 in. holes in  $\frac{3}{4}$  in.
- 498 Roversford double end,  $\frac{7}{8}$  in. throat; punch  $\frac{3}{4}$  in.; shear  $6\frac{1}{2}$  in.
- 634 Williams & White, 12 in. plain jaw punch, cap.  $\frac{1}{2}$  in., with bar shears.

### POWER SHEARS.

- 291 Cleveland 10 ft. gate shear, 36 in. gap, capacity 2-16 in.; motor drive.
- 59 H. Pels & Co. Johns beam shear; cap. 12 in. 35-lb. beams; belt drive.
- 504 H. Pels & Co., Johns T 40 beam shear; capacity 15 in., 60-lb. beams.
- 593 Lennox circle shears; cuts  $\frac{3}{4}$  in. heads, 42 in. diameter.
- 292 Special stroke type bevel shear; capacity  $\frac{1}{2}$  in. plate.

### PLANERS.

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>215 Gray, 36x36x10, 2 heads; motor.</li> <li>158 Pond, 26x26x6, 1 head; belt d.</li> <li>163 Sellers, 36x36x7, 1 head; belt d.</li> </ul> | <ul style="list-style-type: none"> <li>166 Bement, 36x36x7, 2 hds.; belt d</li> <li>167 Sellers, 42x42x6<math>\frac{1}{2}</math>, 2 hds.; belt d.</li> <li>169 Sellers, 42x42x8<math>\frac{1}{2}</math>, 2 hds.; belt d.</li> </ul> |
|--|---|

### LATHES.

- 622 No. 2 Warner & Swasey turret, wire feed, indp't turret stop.
- 506 Gisholt 28 in. turret,  $\frac{3}{4}$  in. hole in spindle.
- 507 Gisholt 34 in. turret,  $\frac{1}{2}$  in. hole in spindle.
- 597 Reed 30x16 compound rest, solid spindle.
- 234 Hendey, 18x10, quick change gear, hollow spindle; com. rest; p. c. f.
- 595 Rahn-Carpenter, 20x10, taper attachment.
- 630 Greaves & Klusman, 10x8.

### DRILLS.

- 606 Aurora, 28 in. adj. head, power and hand feed, auto. stop.
- 516 Barnes, 26 in. adj. head, power and hand feed.
- 517 Snyder, 28 in. adj. head, power and hand feed.
- 558 Cincinnati, 28 in. adj. head, b. g., power feed.
- 198 Sigourney, 4 spindle, sensitive.

### SHAPERS.

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>628 Milwaukee 24 in., crank.</li> <li>511 Hendey 15 in., friction.</li> <li>514 Steptoe, 14 in. crank.</li> </ul> | <ul style="list-style-type: none"> <li>512 Smith &amp; Mills, 15 in. crank.</li> <li>537 J. G. Blunt 16 in., friction.</li> </ul> |
|--|---|

### PNEUMATIC RIVETERS.

- 605 Albree toggle, 26 in. reach, capacity 1 in. rivets.
- 290 Allen type toggle; 48 in. reach; 9 in. gap; capacity  $\frac{1}{2}$  in. rivets.
- 491 Hanna patented lever; 26 in. reach; 18 in. gap; capacity  $\frac{1}{2}$  in. rivets.

### COMPRESSORS.

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>562 Ingersoll-Rand 8x10, belted.</li> <li>563 Bury 10x10, belted, with tank.</li> </ul> | <ul style="list-style-type: none"> <li>603 Chicago Pneu. Tool 8x8 belted, with 42x8 ft. tank.</li> </ul> |
|--|--|

### MISCELLANEOUS.

- 238 Bending and straightening machine, Cosgrove, capacity 15 in. beams.
- 608 Bolt cutter, double,  $\frac{1}{2}$  in. Acme, class A.
- 213 Boring and drilling machine, horizontal, 4x27x60 in., Beaman & Smith.
- 589 Boring mill, Niles 10 to 16 ft. extension.
- 609 Cold saw, No. 18 Wagner, 18 in. diameter blade.
- 240 Cornice brake, 8 ft. Geo. A. Ohl, capacity No. 18 gauge.
- 629 Miller, plain, No. 4 Cincinnati.
- 201 Miller, plain, No. 9 Garvin, table 7 $\frac{1}{2}$ x30 in., back geared.
- 313 Pipe cutter, No. 54 Merrill, capacity 2 in. pipe, belt drive.
- 486 Planer, plain rotary, 26 in. head, No. 1 Newton, arranged for motor.
- 208 Profiling machine, No. 2 Pratt & Whitney.
- 541 Screw machine, 1 in. Cleveland automatic.
- 538 Screw machine, 2 in. Cleveland automatic.
- 623 Tapping machine, No. 1 Garvin automatic.
- 627 Wheel press, Schaeffer, 150 ton.

## SECOND-HAND MACHINERY

### FOR SALE BY

**C. C. Wormer Mach'ry Co., 94-96 W. Woodbridge St., Detroit, Mich.**

#### ENGINE LATHES.

15x6 Sebastian, compound.  
14x6 Reed, r. & f. and taper.  
16x6 Greaves & K., comp. with chuck.  
16x11 ft. x8 in. Reed, r. & f., oil pan.  
18x6 Schumacher & B., compound.  
18x8 Schumacher & B., compound.  
18x10 LeBlond, comp. taper & c. k.

20x10 LeBlond, comp. & chuck.  
20x10 LeBlond, q. c., comp. turret  
on shear and chuck.  
24x10 Greaves & K., compound.  
24x12 LeBlond, compound.  
26x22 Fifield, plain & comp. rests,  
chuck jaws & raising blocks.

#### DRILLS.

No. 2 Fulton, bench sen.  
13 in. American sensitive.  
3 spindle sensitive.  
4 spindle sensitive.  
6 spindle sensitive.

3 spindle, Barnes.  
26 in. Barnes s. h., bk. gd., p. f.  
32 in. Cincinnati s. h., bk. gd., p. f.  
4 ft. arm American, pl. tap. atch.  
16 spindle Natl., mul., 12x26 in.

#### SCREW MACHINES.

No. 1 Pratt & Whitney, w. f.  
No. 2 Pratt & Whitney, w. f.  
No. 1 Foster, wire feed.  
1½ in. Drees, fric. hd., p. f. 16 collets.

No. 6 Brown & S., auto. box tools,  
drill holders, 9 collets.  
½ & ¾ in. Cleveland automatic.  
No. 8 Foster, fric. hd., p. f. & w. f.

#### MILLING MACHINES.

No. 2 Fox, hand.  
No. 12 Kempsmith, pl. bk. gd., 10 in.  
universal, double head.  
24x6x18 Oesterlein, pl. bk. gd. 10 in.  
universal, double head.  
No. 2 Pratt & Whitney, hand.  
No. 30 Oesterlein uni., all feeds,  
range, 30-10-19.

No. 3 Becker B., ver. with rotary.  
No. 2 Van Norman, duplex.  
2 spd. Beman & S., hor. & vertical,  
platen 24 in. x8 ft. motor drive.  
No. 1 Cincinnati pl., range 21-7-20.  
No. 2 Owen univ., all feeds, range  
25-7-18.

#### PRESSES.

No. 7 Perkins, model I, geared.  
No. 53 Fowler, fly wheel.  
No. S24 Ferracute, st. sd., not gd.  
No. 52 Ferracute, plain.  
No. P5 Ferracute.  
No. 3 Greenard arbor.

No. 12½ Perkins, st. sd., dbl. act. gd.  
No. DG55 Ferracute, dbl. act. gd.,  
st. coi., drawing.  
No. DG74 Ferracute, st. sd., open b.  
No. 3½ Bliss toggle, drawing.

#### PLANERS.

22x22x5 ft. Wheeler.  
22x22x5 ft. Pond, par. drive.  
24x24x6 ft. Hendy.  
26x26x5 ft. Gray.  
26x27x6 ft. Wheeler.  
28x28x6 ft. Pond.

32x32x8 ft. Pond.  
32x32x10 ft. Pond, two heads.  
36x36x7 ft. 3 in. Sellers, sgl. hd. and  
side head, spiral drive.  
48x48x12 ft. Pond, 2 hds. & 1 side hd.

#### MISCELLANEOUS.

Bolt cutter, 1½ in. Little Giant, hand  
opening die head, all dies.  
Buffing lathe, No. 14 Builders Iron  
Foundry, t. & l. pulleys.  
Buffing lathe, Webster & P., 1½ in.  
spindle, col. and c. s.  
Chamfering machine, Rochester,  
gear tooth.  
Cutter grinder, No. 160 Wells.  
Dynamo, 75 light, d. c., 110 volts.  
Dynamo, plating, 125 amp.  
Gear cutter, full automatic, No. 1  
Dwight Slate.  
Gear cutter, full automatic, No. 11  
Dwight Slate, style B, univ., div. hd.  
Grinder, No. 1 Besly, disc, 12 in.  
electric chuck and c. s.  
Grinder, No. 3 Blount, col. & c. s.  
Grinder, Cincinnati univ., complete.  
Grinder, B110 Hisey, electric.  
Grinder, No. 24 Landis, crank pin.

Grinder, No. 24 Landis, line bearing.  
Hack saws, Millers F. and Sterling.  
Hammer, helve, 40 lb. Bradley.  
Hammer, board lift, 75 & 100 lb. hds.  
Hammer, 125 lb. Bradley, compact.  
Oil furnace, blower and pyrometer,  
8x12x32 Stewart.  
Rivet spinner, No. 80 Grant.  
Screw slotter, Brown & Sharpe.  
Screw slotter, Garvin, with head.  
Shaper, 15 in. Perkins, friction.  
Shaper, 24 in. Hendy, friction.  
Shaper, 24 in. Hendy, traverse head.  
Shaper, 28 in. Smith & M., triple gd.  
Tanks, wood and iron (5).  
Tumbling barrel, No. 1 Globe, tilt-  
ing type, steel.  
Turret lathe, 14 in. W. & S., with ck.  
Turret lathe, 24 in. Gisholt, friction  
g. h., p. f. o carriage and turret  
slide, taper boring attachment.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.**

#### LATHES.

9x44 Star, plain rest, p. c. f.  
 11x4 Mann, r. and f.  
 14x6 Davis, plain rest, p. c. f.  
 14x8 LeBlonde, chuck.  
 15x6 Putnam, taper attachment.  
 17x6 Reed, c. r., p. c. f.  
 18x6 Lodge & D., c. r., p. c. f., taper.  
 18x8 Lodge & Shipley, patent head, c. r., p. c. f., chuck.  
 20x8 Fay & Scott, compound rest, power cross feed.  
 20x8 McMahon, compound rest.  
 20x10 Draper, c. r., p. c. f.  
 21x14 Powell, c. r., p. c. f.  
 26x12 Fish, compound rest.  
 26x13 Fitchburg, compound rest.  
 26x14 Perkins, compound rest, power cross feed.  
 27x12 Pratt & Whitney, plain rest.

28x10 Gleason, compound rest.  
 28x12 Putnam, c. r., p. c. f., taper.  
 30x12 Niles, c. r., p. c. f.  
 32x10 Draper, c. r., p. c. f., taper.  
 32x12 Johnson, c. r., p. c. f.  
 32x17 Bement triple geared, compound rest.  
 32x17 Bement, triple geared, compound rest, power cross feed.  
 38x20 Fay & Scott, compound rest, power cross feed.  
 40x18 Newark, triple geared.  
 46x38 Fitchburg, triple geared.  
 60x26 Fifield, triple geared.  
 84x26 compound rest, power cross feed.  
 103x35 Bement, triple geared.  
 16 in. x 10 ft. automatic threading lathe.  
 60 in. Stevens pulley lathe.

#### MILLERS.

No. 2 P. & W., Lincoln pattern.  
 No. 2 Garvin, hand.  
 No. 3 Cincinnati, plain.  
 No. 4 Garvin, manufacturers type.  
 No. 2 LeBlond, plain.

No. 4 Becker, plain.  
 No. 2 Cincinnati, plain.  
 No. 12 Brown & Sharpe, plain.  
 No. 4 Cincinnati, plain.  
 No. 2 Cincinnati, universal, g. fd.

#### DRILLS.

Foots-Burt, high speed.  
 Baker Bros. high speed.  
 24 in. Cincinnati, sliding head.  
 38 in. New Haven, sliding head.

4 ft. Bickford, plain radial.  
 1 1/2 ft. Bausch, plain radial.  
 30 in. Gang radial, back gears.  
 10 spindle Gardam, adjustable.

#### SHAPERS.

20 & 24 in. Hendey, friction.  
 18 in. Putnam, friction.

26 in. Lodge & Davis, shifting belt.  
 12 in. Prentiss, crank.

#### GEAR CUTTERS.

12 in. Gould & Eberhardt, hand.

30 in. Gould & Eberhardt, auto.

#### SCREW MACHINES.

1/2 in. No. 52 National-Acme, auto.  
 1/2, 1, 1 1/2 & 2 in. P. & W., auto.  
 2x24 Jones & Lamson.

No. 3 2 in. Pratt & W., wire feed.  
 No. 4 2 1/2 in. W. & S., wire feed.  
 1x10 in. Pratt & Whitney, wire fd.

#### PLANERS.

22x22x4 Powell, 1 head.  
 26x26x6 Pond, 2 heads.  
 33x33x8 Betts, 1 head.  
 36x36x12 Betts, 4 heads.

38x38x8 Gleason, 1 head.  
 48x42x8 Farrell, 1 head.  
 48x48x15 Pond, three heads.  
 15 ft. plate planer.

#### HAMMERS.

50 lb. Bradley, compact.

600 lb. Erie, steam.

#### PIPE MACHINES.

6 in. Merrill.

3 in. Jarecki.

#### MISCELLANEOUS.

Bending rolls, 8 ft. x 16 in.  
 Boring mill, 10 ft. Pond.  
 Cold saw, 24 in. Newton.  
 Engine, gasoline, 8 h. p., Fairbanks.  
 Engine, steam, 8x10 in. Ide.  
 Grinder, plain, 12x42 Landis.

Grinder, surface, Walker.  
 Grinder, disc, 18 in. No. 4 Besly.  
 Keyseater, No. 2 Davis.  
 Profiler, 1 spindle, Garvin.  
 Slotter, 13 in. Bement.  
 Slotter, 16 in. Bement, crank.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago  
610 Merrill Building, Milwaukee, Wis.**

Something in this List ought to interest you. Let us know what it is.

#### LATHES.

- |  |  |
|--|--|
| 10x54 Davis (new, but reduced price).  | 20x12 Greaves & Klusman, comp. rest, turret on shears, chuck fitted. |
| 12x6 Davis (new, but reduced price).   | 21x10 Bradford, comp. rest, taper attachment, fine order.            |
| 14x6 Hamilton, compound rest.          | 24x14 Economic, compound rest, blocks to 32 in.                      |
| 14x6 LeBlond, good order.              | 30x14 Fifield, compound rest.  |
| 15x6 Von Wyck, c. r. and chuck.        | 32x16 Davis, double back gears (new, reduced in price).              |
| 15x5 Star, chuck fitted.               | 39x12 Putnam, compound rest.   |
| 16x6 Bradford compound rest.           |  |
| 16x6 Davis c. r. (new, reduced price.) |  |
| 16x6 Davis c. r. and tap., reduced pr. |  |
| 18x8 Lodge & Davis, c. r. and taper.   |  |
| 18x9 Springfield, c. r. and taper.     |  |

#### SHAPERS.

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| 12 in. Walcott, crank, good order.  | 20 in. Cincinnati, back geared. |
| 16 in. Queen City, new, reduced pr. | 22 in. Walcott, triple geared.  |
| 16 in. Rockford.                    | 24 in. Hendy, triple geared.    |
| 16 in. Kelley.                      |                                 |

#### PLANERS.

- |                                       |   |
|---------------------------------------|---|
| 72x72x14 Niles, 4 hds, A-1 condition. | 32x32x12 Ohio, 2 heads.                 |
| 48x48x20 Belmer, 4 heads.             | 30x30x8 Pond, 1 head.                   |
| 44x44x12 Pond, 2 heads.               | 30x30x12 Belmer, 2 heads.               |
| 36x36x12 Gray, 2 heads.               | 30x30x10 Flatner, 3 heads.              |
| 36x36x14 Belmer, 2 heads.             | 26x26x8 Whitcomb (new, reduced pr.)     |
| 36x36x10 Gray, 2 heads.               | 40x38x14 Putnam, old style, low pr.     |
| 32x32x10 Gray, 2 heads.               | 36x30x12 Sellers, old style, low price. |

#### MILLING MACHINES.

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| No. 6 Whitney, hand.              | No. 5 Garvin, plain back geared.    |
| No. 10 Pratt & Whitney, hand.     | No. 1 Cincinnati, plain head, univ. |
| No. 34 Waltham, bench.            | No. 1 Kempsmith, b. g. universal.   |
| No. 3 Cincinnati, plain.          | No. 2 P. & W., Lincoln type.        |
| No. 13 Garvin, plain.             | No. 2 Thurston, die miller.         |
| No. 0 LeBlond, plain back geared. | No. 4 Becker, univ. (new, low pr.)  |

#### UPRIGHT AND RADIAL DRILLS.

- |  |  |
|--|--|
| 5 ft. arm Western, universal.          | 35 in. Blausdel, sl. hd., bk. gr., p. fd.      |
| 5 ft. Bickford, plain, gear box.       | 34 in. Barnes, sl. hd., bk. gr., p. fd.        |
| 6 ft. Bickford, plain, gear box.       | 28 in. Snyder, sl. hd., bk. gr., p. fd.        |
| 4 ft. Bickford, plain cone.            | 25 in. Prentice Bros., sl. hd., bk. gr. p. fd. |
| 4 ft. Fosdick, National plain cone.    | 18-20 in. and smaller.                         |
| 38 in. New H. sl. hd., bk. gr., p. fd. |  |

#### SENSITIVE DRILLS.

1 to 6 spindles, various makes.

#### POWER PRESSES.

- |  |  |
|--|--|
| No. 20 Bliss, inclinable.              | No. P2 American Can, 1 1/2 in. stroke.     |
| No. 36 Niagara, 1 1/2 in. stroke.      | No. 4 American Can, o. b. i., 2 1/2 in. s. |
| C82 Ferracuta, armature notching.      | No. 3 American Can, o. b. i., 2 in. s.     |
| C94 Ferracuta, armature notching.      | No. 2 American Can, o. b. i., 2 in. s.     |
| No. 81 Consolidated, 1 1/2 in. stroke. | No. 73 Consolidated, geared.               |
| No. P1 Ferracuta, 1 1/2 stroke.        | No. 0 Blake & Johnson arch press.          |

#### TURRET LATHES.

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| Libby, geared head, fine condition. | 20 in. Fay & Scott, universal.  |
| 24x24 Jones & Lamson, set over hd.  | 7 smaller sizes, various makes. |
| 3x36 Jones & Lamson, good order.    |                                 |

#### BORING MILLS—VERTICAL AND HORIZONTAL.

- |                          |                                |
|--------------------------|--------------------------------|
| 10 ft. Niles, 2 heads.   | 54 in. Colburn, swivel turret. |
| 76 in. Betts, 2 heads.   | No. 3 Barrett cylinder borer.  |
| 50 in. Colburn, 2 heads. | 42 in. Niles car wheel borer.  |
| 38 in. Rogers, 2 heads.  |                                |

#### ELEMENT SINGLE END PUNCH AND SHEARS.

- |                                       |                                      |
|---------------------------------------|--------------------------------------|
| 42 in. throat, capacity 4x1 1/2 in.   | Cincinnati sgl. end punch and shear, |
| Humphrey sgl. end punch and shear,    | 8 in. throat, capacity 1 1/2 x 1 in. |
| 36 in. throat, capacity 1 1/2 x 1 in. |                                      |

## SECOND-HAND MACHINERY.

**H. A. Stocker—Continued.**

### SCREW MACHINES.

No. 1 Garvin.  
No. 2 Pratt & Whitney.  
No. 2½ Pratt & Whitney.  
No. 51 National-Acme automatic.

1 in. Cleveland automatic.  
1 in. Cleveland automatic.  
2 in. Cleveland automatic.

### MISCELLANEOUS.

Bolt cutter, 1½ in. Schlenker.  
Bolt header, 4 in.  
Centering machine, 4 in. Whiton.  
Cutting-off mche., 5 in. Hurlburt & R.  
Gear cutter, 26 in. Brown & S., auto.  
Gear cutter, 30 in. Flather.

Gear cutter, 34 in. Whiton, auto.  
Gear cutter, 50 in. Gould & P., auto.  
Hammer, helve, 40 lb. Bradley.  
Hydraulic press, 40 ton.  
Hydraulic press, 100 ton with pump.  
Pipe machine, 4 in. Stoeber.

### FOR SALE BY

**Western Machinery Co., 6th and Baymiller Sts., Cincinnati, Ohio.**

Drill, 4 ft. radial, with chuck.  
Lathe, 14x6 Springfield, quick change gears, nearly new.  
Planer, 50x36x8 Pond, 2 heads, cheap.  
Shaper, 16 in. Smith & Mills.  
Also large stock of other machine tools, etc., at very low prices.

### FOR SALE BY

**A. D. White Machinery Co., 108-114 N. Jefferson St., Chicago.**

### LATHES.

14x6 Fay & Scott, taper att.  
16x6 Lodge & Shipley, q. c.  
16x8 Blaisdell.  
16x8 Davis, c. r., fine condition.

18x12 Barker, shopworn.  
20x10 Fay & Scott, c. r.  
21x12 Davis & Egan, c. r.  
30x10 Powell, fine condition.

### DRILLS.

3 spindle Baker.  
4 spindle Barr, sensitive.  
28 in. Bickford, sliding head, (4).  
28 in. Aurora, sliding head.

30 in. Kerkhoff, sliding head.  
30 in. Bickford, sliding head.  
32 in. Bickford, sliding head.  
3 ft. Bickford radial, cheap.

### PLANERS.

24x 6 Gray, 1 head (2).  
24x 6 Pond, 1 head.  
25x 6 Sellers, spiral drive.  
26x 6 Gray, 1 head.  
26x 8 Gray, 1 head (2).  
28x10 Gray, 1 head.

28x 8 Gray, 1 head (2).  
32x 8 Betts, 1 head.  
36x10 Gray, 2 heads.  
36x12 Cincinnati, 2 heads.  
38x10 Gray, 1 head, fine.  
32x25 Betts, 1 head.

### SCREW MACHINES AND TURRET LATHES.

16 in. No. 3 Pearson screw machine.  
No. 2½ Pratt & Whitney sc. mche.  
No. 3 Pratt & Whitney sc. mche.  
1 in. Cleveland, automatic.  
1 in. Pratt & Whitney, automatic (4).  
1 in. Cleveland, semi automatic.

13 in. Drees turret lathe.  
16x5 Flather turret lathe.  
18 in. Drees turret lathe.  
18 in. D. & E., fr. hd., 2 step cone.  
5½ in. belt turret lathe.

### PUNCH PRESSES.

No. 0 Cady.  
No. 4 Stiles & Parker incl.

No. 75½ Bliss, geared, fine.  
No. 18 Bliss incl.

### MISCELLANEOUS.

Cutting-off machine, 2 in. H. & R.  
Grinder, cutter, H. G. Barr.  
Grinder, surface, 8x18 in.  
Hammer, power 35 lb. Justice.  
Hammer, power 50 lb. Dienelt.  
Hammer, drop, 200 lb. Norton.  
Hammer, 2,000 lb. American.

Keyseater, No. 2 Catlin.  
Keyseater, 16 in. Morton.  
Miller, No. 0 Owen, slotting att.  
Miller, No. 2 Garvin Lincoln.  
Pipe machine, 6 in. Curtis.  
Shaper, 16 in. Smith & Mills.  
Shaper, 18 in. Henderson, b. g.

For other bargains, and prices, get our "Yellow Book." It costs you nothing, and can save you time and money.

## FOR SALE BY

**The Motch & Merryweather Machinery Company,**  
**707-715 Lakeside Av., N. W.,** **Cleveland, Ohio**  
**Branches: Detroit, Cincinnati, Pittsburgh.**

### Refitted Machine Tools:

#### BORING MILLS.

- |                                 |                                 |
|---------------------------------|---------------------------------|
| 30 in. Bullard, plain table (2) | 51 in. Bullard, 2 swivel heads. |
| 37 in. Dawson, 2 swivel heads.  | 10 in. Pond, 2 swivel heads.    |

#### BROACHING MACHINE.

No. 1 Vertical, standard.

#### DRILL PRESSES—UPRIGHT.

- |   |  |
|---|--|
| 20 in. Barnes.  | 28 in. Prentice, sliding head, back gears, power feed. |
| 21 in. Prentice, stationary head, back gears, power feed. | 28 in. Rockford, good as new.                          |
| 24 in. Buckford, sliding head, (2).                       | Baker, high speed.                                     |
| 26 in. New Haven, sliding head, (2).                      | Dallett, portable (2.)                                 |
| 36 in. New Haven, sliding head.                           | 6 spindle Quint, turret.                               |

#### DRILLS—RADIAL.

- |                                  |   |
|----------------------------------|---|
| 3 ft. Fosdick.                   | 5 ft. Western, full universal, complete with motor. |
| 4 ft. Fosdick.                   | 5 ft. Pond, heavy, box table.                       |
| 4 ft. Prentice plain, box table, | 6 ft. Pond, heavy, box table.                       |
| 4 ft. Box, half universal.       |   |
| 5 ft. Pond, heavy.               |   |

#### GEAR CUTTERS.

- |                                       |   |
|---------------------------------------|---|
| 33x9 in. x 4 p. Gould & Eberhardt.    | No. 1 Schuchardt & Schutte hobbing machine (2). |
| 48x10 in. x 3 p. Gould & Eberhardt.   | No. 2 Schuchardt & Schutte hobbing machine.     |
| 60 in. Gould & Eberhardt, spur gears. |   |
| 20 in. Rhenania gear hobber.          |   |

#### GRINDERS.

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| No. 1 Landis internal.            | No. 60 Heald, cylinder, (2).        |
| No. 3 Landis universal, (2).      | No. 2 Leland & Faulconer, wet tool. |
| No. 24 Landis plain, swivel head. | "A" Yankee drill grinder.           |
| No. 11 Brown & Sharpe, plain.     |                                     |

#### ENGINE LATHES.

- |  |                                       |
|--|---------------------------------------|
| 12x5 Young, comp. r., good as new.                   | 19x8 Greaves & K., good as new.       |
| 13x5 Willard, compound rest.                         | 22x15 Pond, compound rest.            |
| 14x6 Hendey, plain rest, taper att.                  | 26x14 New Haven, 20 in. chuck, c. r.  |
| 14x6 Prentice, plain rest, taper att.                | 36x16 Pond, 4 jaw chuck, back geared. |
| 16x6 Prentice, comp. rest, taper att.                | 36x24 New Haven, c. rest, back. gd    |
| 18x12 New Haven, plain rest.                         | 48x30 Niles, triple geared. comp.     |
| 20x8 Flather, 4 step cone, belt feed, compound rest. | rest, raising block 24 in.            |

#### MILLING MACHINES.

- |   |   |
|---|---|
| No. 2 Davis & Egan, plain, B. & S. index centers. | No. 1 Eynon, back geared.                         |
| No. 3 Cincinnati, cone type, belt feed.           | No. 2 Oesterlein, plain.                          |
| No. 3 1/2 Garvin, plain.                          | No. 3 Owen, plain.                                |
|   | 24 in. Ingersoll slab miller, removable housings. |

#### PLANERS.

- |   |  |
|---|--|
| 10 in. Busch, crank, swivel vise.                         | 24x24x6 Ohio, 1 head.                                      |
| 22x22x4 New Haven.  | 48x48x10 Detrick & Harvey, open side, 1 rail, 1 side head. |
| 30x30x8 Detrick & Harvey, open side, 1 rail, 1 side head. | 36x36x10 Cincinnati, 2 heads.                              |

#### PRESSES.

- |                     |                 |
|---------------------|-----------------|
| No. 4 Bliss, punch. | Inclinable (2). |
|---------------------|-----------------|

#### PUNCHES AND SHEARS.

- |  |  |
|--|--|
| 18 in. throat, motor driven, 7 1/2 h. p. Westinghouse motor. | 18 in. Hilles & Jones, 7 1/2 h. p. Westinghouse motor, spacing tble. |
| 18-20 in. heavy double end punch and shear, belt driven.     | Horizontal straightening machine, belt driven.                       |

#### SHAPERS.

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 15 in. Hendey, tilting table. | 24 in. Flather, vert. feed to head. |
| 16 in. Gould & Eberhardt.     | 24 in. Morton, draw stroke.         |
| 20 in. Hendey.                | 26 in. Cincinnati, shifting belt.   |
| 24 in. Gould & Eberhardt.     | 24 in. Gould & E. extension base.   |

## SECOND-HAND MACHINERY

### The Motch & Merryweather Machinery Co.—Continued.

#### TURRET LATHES.

2x24 Jones & Lamson, latest type.  
7x14 Potter & Johnston.  
16x5 Mueller, plain rest, turret on  
shear and chuck.  
24 in. Lodge & Shipley screw mach.

28 in. Gisholt, rapid traverse.  
44 in. Grant chucking lathe.  
No. 3 Pratt & Whitney, hub forming  
attachment.  
No. 1 Krauth & Benninghofen.

#### MISCELLANEOUS.

Belt lacer, 17 in. Peerless.  
Hammer, friction board drop, 1,200  
lbs. Billings & Spencer.  
Keyseater, 24 in. Morton.  
Planer, Morton portable, complete  
with motor.  
Pipe machine, 6 in. Saunders.

Pipe machine, 12 in. Curtis.  
Riveter,  $\frac{3}{4}$  in. Schuster.  
Riveter, pneumatic gap, 10x37 in.  
Chicago.  
Sharpeners, cold saw, 40 in. Newton  
automatic.

### FOR SALE BY

**Buffalo Tool & Supply Co., 15 W. Swan St., Buffalo, N. Y.**

Blower, pressure or vacuum, Lehman, capacity 160 ft. free air.  
Compressor, Ingersoll-Rand, belted, 10x10, with tank.  
Compressor, Hall, steam drive, capacity 325 ft. per minute, A. 1 condition.  
Cut-off saw, Nutter Barnes, 5 in. capacity.  
Grinder, universal, Landis Tool Co., 10 in. swing, 20 in. between centers.  
Grinders, Buffers, Polishing Heads, &c., of all sizes.  
Motor, electric, d. c. 500 volts, 15 h. p.  
Radial drill, Niles, 66 in.  
Upright drill press, 24 in., square base, w. & l. feed, back gear, p. f.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,**

**210-212 Washington Ave.**

**St. Louis, Mo.**

#### LATHES.

16x 6 Reed.  
18x 8 Flather.  
20x12 Putnam.

28x18 Putnam.  
36x12 in fair condition.  
48x40 double head, column facing.

#### DRILLS.

6 spindle Quint.  
28 in. Pond, sliding head.  
20 in. Barnes.  
22 in. Barnes.

32 in. Lodge & Davis, sliding head.  
60 in. arm, plain radial.  
60 in. Bickford, with tapping att.

#### PLANERS AND SHAPERS.

16 in. Steptoe shaper.  
22x22x5 planer.

24x24x5 planer.  
30x30x5 open side planer.

#### AIR COMPRESSORS.

8x8 Curtis.  
8x8x8 Smith-Vaile, steam driven.

960 cu. ft., steam driven.  
99 in. Westinghouse, steam driven.

#### STEAM PUMPS.

14x8x10 Worthington duplex.  
14x12x18 Gordon duplex.

16 & 26x12x18 Gordon compound.  
22x14x24 Dean duplex.

#### MISCELLANEOUS.

Bending rolls, 6 ft., motor driven,  
capacity,  $\frac{3}{4}$  in.  
Bolt cutter,  $\frac{1}{2}$  in. National.  
Bolt header, 1 in.  
Boring machine, horizontal Betts.  
Bulldozer, No. 8 Williams-White.  
Hammer, strap, 30 lb. Bradley.  
Hammer, vacuum, 80 lb. Yeakley.  
Hammer, 90 lb. Justice.  
Keyway cutter, No. 8 Morton.  
Miller, universal, No. 1 Brown & S.

Motor, sgle. phase, 15 h. p. Wagner.  
Pipe machine, 4 in. Saunders.  
Pipe machine, 12 in. Bignall & Keeler.  
Press, power, 17 in. throat.  
Punch, single, 8 in.,  $\frac{3}{4}$  in.  $\frac{1}{2}$  in.  
Punch and shear, 48 in. throat.  
Punch and shear, dble., No. 5 L. & A.  
Screw machine, semi-automatic,  $\frac{3}{4}$  in.  
Cleveland.  
Tube cutter, 2 in. rotary.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Marshall & Huschart Machinery Company,**  
**17 S. Jefferson St., Chicago. 334 N. Capitol Ave., Indianapolis.**  
**915 Chemical Bldg., St. Louis. 418 Railway Exc., Milwaukee.**

#### BOLT CUTTERS.

1 in. National, double head.  
 1½ in. National, single head. | 2 in. Landis, double head.

#### BORING MILLS.

37 in. Niles, double head.  
 No. 4 Betts horizontal, 3 in. bar, 6 ft. table.  
 No. 1 Pawling & Harnischfeger horizontal floor boring and drilling machine.

#### DRILLS.

21 in. Hoefer, wheel and lever and power feed, back gears.  
 21 in. Lodge & Davis, sliding hd., wheel and lever and power fd., bk. gears.  
 26 in. Rockford, sliding head, complete.  
 28 in. Hamilton, sliding head complete, with tapping attachment.  
 2-spindle, Baker Bros., style "F", heavy pattern manufacturers.  
 Baker Bros. style "M", heavy pattern manufacturers.  
 No. 22 Moline, 4-spindle multiple drill, capacity four 2-in. holes.  
 36 in. Dreses plain radial, cone drive, tapping attachment.

#### GEAR CUTTERS.

40x9 in. Gould & Eberhardt, full automatic, spur gears only.  
 24 in. Fellows gear shaper.

#### GRINDERS.

20 in. Ransom water tool.  
 No 6 Besly disc, with 18 in. discs.  
 16x30 in. Landis, plain, latest pattern.  
 16x30 in. Landis cam grinder. | No. 4 Landis universal, 12x66 in.  
 No. 50 Saxon, vert. cylinder grinder.  
 Diamond face grinding machine,  
 with 14-in. wheel.

#### HAMMERS.

800 lb. Massillon drop, steel frame. | 1500 lb. Massillon drop, steel frame.

#### KEYSEATERS.

20 in. Morton draw stroke.

#### LATHES.

14 in. x5 ft. Lodge & Shipley, patent head, tool room.  
 14 in. x6 ft. Lodge & Shipley, 3 step cone, turret on carriage.  
 14 in. x8 ft. Hamilton, 4 step cone, compound rest.  
 14 in. x6 ft. Bradford, 5 step cone, compound rest.  
 15 in. x6 ft. Von Wyck, tool room lathe.  
 16 in. x6 ft. Hamilton, 5 step cone, quick change gears.  
 16 in. x8 ft. Bradford, 5 step cone, compound rest.  
 18 in. x6 ft. American, 5 step cone, compound rest.  
 22 in. swing John L. Bogart crank shaft lathe.  
 24 in. x12 ft. Economic, quick change gears.  
 38 in. x19 ft. New Haven, compound rest.  
 42 in. x18 ft. Lodge & Shipley, patent head, compound rest.

#### TURRET LATHES AND SCREW MACHINES.

24 in. x10 ft. Walcott turret lathe.  
 25 in. Gisholt turret lathe.  
 28 in. Pond rigid turret, taper att.  
 2x24 in. Jones & Lamson flat turret.  
 4 in. Cleveland auto., screw machine.  
 4 in. Cleveland auto., screw machine.  
 7-16 in. Pratt & W. auto., screw mche. | No. 10½ (8½x16 in.) Acme auto. screw  
 machine, 1½ in. capacity.  
 No. 52 (4 in.) National-Acme auto.  
 screw machine, latest pattern.  
 No. 56 (2½ in.) National-Acme auto.  
 screw machine, latest pattern.

#### MILLING MACHINES.

No. 24 Brown & S., plain, disc fd.  
 No. 14 Brown & Sharpe universal.  
 No. 2 Cincinnati univ., cone type.  
 No. 2 Cincinnati plain, cone type.  
 No. 3 Cincinnati plain, motor driven. | No. 2 Lincoln type, plain.  
 No. 3-B. Kearney & Trecker, single  
 pulley drive, all power feeds.  
 No. 4-B. Becker-Brainerd vertical.  
 No. 4 Cin'ti pl. cone type, all p. fds.

#### PLANERS.

36 in. x36 in. x10 ft. Whitcomb, two heads.  
 60 in. x72 in. x16 ft. Fitchburg, one head.

#### PRESSES.

No. 2 Bliss double crank, overhanging press, back geared, 2 in. stroke.  
 No. 4-A Willard, open back inclinable.

## SECOND-HAND MACHINERY

### Marshall & Huschart Machinery Company—Continued.

#### MISCELLANEOUS.

Centering machine, 2 spindle Whiton.  
Pipe Machine, No. 4 Eaton, Cole & Burnham, 2½ to 8 in.  
Shaper, crank, 14 in. Gould & Eberhardt.  
Slotter, 10 in. Putnam, with circular table.

Is your name on our mailing list? Send for our latest "Red Cross" booklet, containing illustrations and descriptions of second-hand machines which we are offering at reduced prices; also new tools.

#### FOR SALE BY

**O. L. Packard Machinery Co., Chicago, Ill., and Milwaukee, Wis.**

##### LATHES.

No. 4½ Barnes foot power, (2), \$50.	16x6 Lodge & S., q. c. g., tpr. att. \$315.
12x5 P. T. & S., c. p. r., \$170.	18x8 Fay & Scott turret, f. b. g.
14x6 Lodge & Davis, \$185.00.	72x22, cp. rest, with raising blocks
16x6 Reed, taper attachment, \$225.	to increase swing to 120 in.

##### DRILLS.

20 in. Prentice, \$88.	25 in. Prentice.
24 in. Sibley & Ware, \$120.00.	5 ft. Cincinnati full universal radial.

##### SHAPERS.

14 in. Flather, single geared, \$235.

##### PLANERS.

24x24x5, 2 heads on cross rail. 24x24x6, Hendy, \$300.00.

##### MILLING MACHINES.

No. 1 Garvin universal, vertical and circular attachment, \$600.  
No. 3 Cincinnati, plain positive feed, \$600.  
No. 4 Cincinnati universal, old style.

#### MISCELLANEOUS.

Gear cutter, 36 in. Brinard.	Screw mche., ½ in. P. & W., automatic.
Hammer, steam, 250 lbs. Bell.	Shear, bevel, Thompson, for boiler
Keyseater, Morton, nearly new.	plate, \$100.00.

#### FOR SALE BY

**The Osborne & Sexton Machinery Co., Columbus, Ohio.**

##### LATHES.

2x24 Jones & Lamson turret.	18x8, 16 & 12 Hamilton q. c., h. s., c. r.
15 in. Baker turret lathe.	20x8x10 Hamilton, c. r., h. s.
16x6 Miami Valley.	24x10 LeBlond, turret on shears.
16x8 Mueller, cp. r., hol. spdl.	36x14 & 18 New Haven.

##### PLANERS.

32x32x10 Gray, 2 heads.	36x36x12 Sellers, 1 and 2 heads, (2).
33x33x12 Cincinnati, 2 heads.	48x48x20 Belmar, 4 heads.

##### BORING MILLS.

72 and 84 in. Sellers.	83 in. Johnson, single head.
84 in. Sellers, widened pattern.	7, 8 and 8 ft. Betts, 3 heads.

#### MISCELLANEOUS.

Air compressor, 100 ft. Bury.	Hammer, helve, Schultz power.
Boring mches., cyl., 20 in. Barrett (2).	Keyseater, No. 1 & 2 W. P. Davis.
Boring mill, horiz., 1½ in. B. & S.	Millers, hand, Burke and Garvin.
Cock grinder, double.	Nut tapper, 4 spindle, 2 in. Acme.
Drill, 2½ ft. Fosdick plain radial.	Pipe machine, 1 to 6 in. Merrill.
Drill, 4 ft. Bickford plain radial.	Press, foot, Niagara, heavy.
Gas engines, 10, 15, 25 and 125 h. p.	Presses, foot, No. 1 Consol, (5).
Gas furnace, No. 2 Chicago.	Presses, power, No. 4 Consol, (3).
Grinder, surface, No. 3 B. & S.	Shapers, 20 in. Smith & Mills, (3).
Grinder, universal, No. 3 B. & S.	Tapping mches., Webster & P., (2).
Hammers, drop, 300, 700 and 3,000 lbs.	

## SECOND-HAND MACHINERY

### FOR SALE BY

**Niles-Bement-Pond Company, . 111 Broadway, New York.**  
**Located at Chicago, Boston and New York.**

#### LATHES.

B. & D. single axle lathe.	21x6 Bridgeport, turret boring.
No. 2 Bement double axle lathe.	21x8 Star, turret carriage.
No. 3 Putnam extra heavy axle lathe.	22x10 F. B. Miles, comp. rest.
10x5 Champion, standard.	22x12 Niles, back geared.
13x6 P. & W., r. and f. rest, taper.	22x16 Fitchburg.
14x5 American, square arbor.	21 and 48 in. Harrington, gap, boring and chuck.
14x6 F. B. Miles, comp. rest.	36 in. Niles car wheel borer.
14x6 LeBlond standard.	36 in. x17 ft. Pond, comp. rest.
18x6 Blaisdell, rise and fall rest.	42 in. Niles steel car wheel lathe.
19x6 D. W. Pond, turret tool post.	42 in. x22 ft. Niles, tr. gd.
20x10 LeBlond q. c. & comp. rest.	

#### TURRET MACHINERY.

3 in. No. 0 Hartford, automatic.	6x4 in. P. & W., tur., new mod.
3 in. No. 00 Hartford, Pratt & Whitney, automatic.	1 1/2 in. Gridley automatic.
3 in. No. 0 Pratt & W., wire feed.	2 15-16 in. No. 3 Niles, screw mche.
4x1 in. National-Acme, 4 spindle, automatic.	20 in. x7 ft. 6 in. F. E. Reed, chucking lathe.
4 in. No. 1 P. & W., wire feed.	24 in. Gisholt, turret lathe.
4 in. No. 1 Garvin, wire feed.	24 in. Conradson, semi-automatic.
4 in. No. 1 Spencer, turret, auto.	28 in. x12 ft. Milwaukee, turret lathe.
	21-32x1 1/2 in. No. 2 Brown & S., auto.

#### PLANERS.

17x17 in. x4 ft. Whitcomb.	30x30 in. x24 ft. Sellers, 2 heads.
26x23 in. x16 ft. Ferris & Niles, 2 hds.	32x32 in. x14 ft. Niles.

#### SHAPERS.

18 in. Cincinnati, double head, traverse shaper.	24 in. Gould & Eberhardt.
15 in. Hendey, friction.	32 in. Cincinnati.

#### DRILLS.

13 in. No. 1 sensitive friction, 110 volt, d. c. motor.	7 ft. 6 in. Niles No. 5, full univ.
22 in. Aurora, sliding head.	10 in. 2 spindle Slate, sensitive.
30 in. Gould & E., sliding head.	12 in. 2 spindle Foote-Burt, sensitive.
36 in. Gould & E., sliding head.	14 in. 3 spindle Garvin, gang.
48 in. Niles, sliding head.	14 in. 4 spindle D. P. N.
Prentiss port. univ. rad., cap. 2 in.	17 in. 4 spindle J. & L., gang.
4 ft. 6 in. Barr, plain radial.	14 in. 6 spindle No. 3 Garvin, gang.
5 ft. 6 in. Niles, semi-universal.	6 spindle special Langelier.
6 ft. 10 in. Niles No. 2, semi-univ.	No. 10, 10 spindle Pratt & Whitney cap. 1 15-16 in., 220 v., d. c. motor.

#### BORING

36 in. No. 2 Brown & S., vert. turret.	Bement & Son horiz., 2 1/2 in. spindle.
Nicholson & Waterman boring machine, 3 in. spindle.	Steams 36 in. special cylinder borer.
Kelly horizontal, 2 in. spindle.	7 ft. Pond boring and turning mill.
	36 in. Bullard boring mill.

#### GRINDERS.

14x2 in. Gould & E., water tool.	Heald twist drill grinder, w. t. a.
18x2 in. Pedrick, double wet tool.	Diamond polishing stand.
24x3 in. Pedrick, double wet tool.	No. 0 Northampton polishing jack.
20x1 1/2 in. Ransom, water tool.	No. 3 Blount, tool grinder.
3 in. Sellers drill grinder.	

#### MILLING MACHINES.

No. 4 1/2 Becker-Brainard, plain, 24x7x16 in.	No. 2 Garvin, plain, 31 1/2x5x16 in.
No. 3 B. & B. universal 32x8 1/2x20 in.	Garvin single spindle profiler, table 21x24 in.
No. 5 B. & B. plain, 9x3x7 in.	No. 2 Garvin Lincoln, miller.

#### STEAM ENGINES (New.)

10x10 28 h. p. horizontal single cylinder c. c. automatic.	
12x12 45 h. p. horizontal single cylinder c. c. automatic (2).	
12x12 45 h. p. horizontal single cylinder c. c. throttling (2).	

## SECOND-HAND MACHINERY

**Niles-Bement-Pond Company—Continued.**

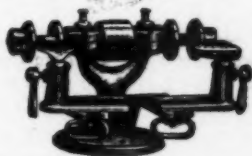
### MISCELLANEOUS.

Bolt cutter, No. 1 Standard.  
Bicycle tube hand rolls.  
Cut-off machine, 2½ in. Betts.  
Cutting-off machine, 10 in. Bement.  
Forging machine, 2 in. Blakesly.  
Hack saw, No. 4 Robertson.  
Hammer, steam, single frame, 1,100 lb., Bement.  
Hammer, power, 350 lb. Lingle.

Iron forge on legs, 28x12x8 in.  
Planer vise, 16x24 in.  
Planer vise, 10x2 in., swivel base.  
Punch and shear, combination, power, ½ in. capacity.  
Spiral spring winding mche., Shuster.  
Tapping machine, horizontal, No. 1 Garvin.  
Vulcanizer, rubber, Hartford, small.

### Second-Hand Wood-Working Machinery.

For a large list of used wood-working machinery, consult **The Machinery List**, a publication similar to this but devoted to the advertising of saw-mill and woodworking machines. A copy may be had on application to the publisher, **A. H. Hitchcock**, 1220-1235 Caxton Building, Chicago, Ill.



**This size machine is made in 13 styles  
for grinding and polishing**

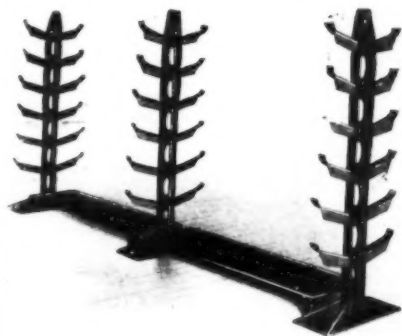
In order to devote our time to larger tools, we will dispose of the patterns, tools and cuts for this line.

Also stock on hand at a sacrifice.

*Send for circulars*

**St. Louis Machine Tool Co.**  
1209 Gratiot St.,      St. Louis, Mo.

## Shop Furniture



THESE HANDY STEEL RACKS are one of our time saving specialties. They are roomy and sturdy, can be placed just where you want them, and to get any bar of steel no end hauling is required.

Write for our complete Furniture Catalogue, showing handy portable benches, iron shelving, stools, steel and smiths' racks, tool stands, lathe pans, our famous iron bench legs, etc., etc. They save time and money and make the shop tidy.

**The New Britain Machine Co.**  
60 Chestnut St., NEW BRITAIN, CONN.

